

# HEAVY METAL LEAD GUITAR

Volume 2

by Troy Stetina

## CONTENTS

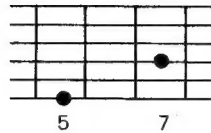
About the Author .....	2	PHOTOS .....	29
Foreword .....	2		
<b>PART VII</b>			
Notes on the third and fourth strings .....	3	<b>PART X</b>	
The modes .....	4	The harmonic minor scale .....	32
The phrygian mode .....	6	Special picking mechanics for arpeggios .....	34
The Spanish flamenco scale .....	7	Diminished 7th arpeggios .....	35
Thirty-second notes .....	8	Speed exercises for "Lightning's Edge" .....	36
Speed exercises for "Mystic Places" .....	8	<b>LIGHTNING'S EDGE</b> (Solo #10) .....	37
<b>MYSTIC PLACES</b> (Solo #7) .....	9		
<b>PART VIII</b>			
Theory: keys and scale structures .....	10	<b>PART XI</b>	
Scale relationships		Extended scale patterns .....	38
major key, minor key, other modes as keys ..	11	Resolution .....	41
Arpeggios .....	14	Right hand fretting - arpeggios .....	43
Soloing over each chord .....	15	Speed exercises for "Battle To Victory" .....	45
Choosing scales for soloing and improvisation ..	17	<b>BATTLE TO VICTORY</b> (Solo #11) .....	46
Using the chromatic scale .....	18		
Rhythmic patterns .....	19	<b>PART XII</b>	
Speed exercises for "Drastic Measures" .....	20	Introduction to "Babylon" .....	47
<b>DRASTIC MEASURES</b> (Solo #8) .....	21	First verse .....	48
<b>PART IX</b>			
Notes on the First and Second Strings .....	22	First chorus .....	49
Relative major and minor .....	23	Second verse .....	49
Soloing in a major key .....	24	Second chorus .....	50
Intervals .....	25	Bridge to third verse .....	51
Harmony .....	27	Third verse .....	51
<b>NEW LANDS</b> (Solo #9) .....	28	Bridge to finale .....	52
		Finale .....	52
		Creative Soloing .....	55
		Theory, complexity, and expression .....	55



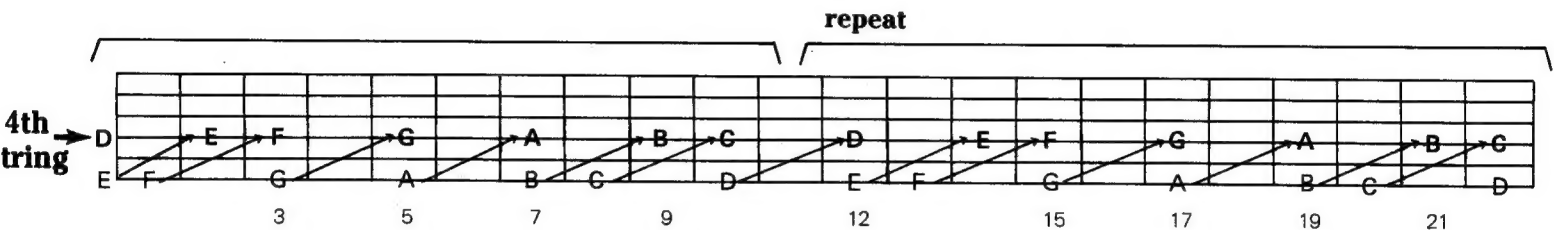
# PART VII

## NOTES ON THE THIRD AND FOURTH STRINGS

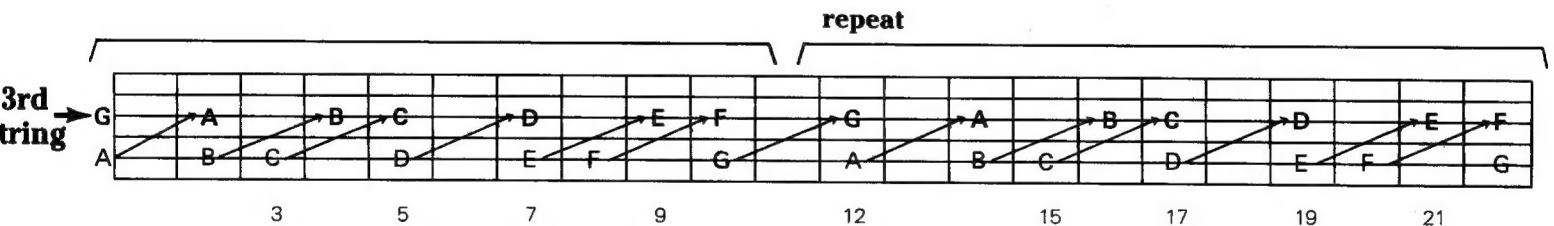
To learn the names of the notes on the third and fourth strings, we will make use of the octave. The notes below are one octave apart.



Since notes an octave apart have the same letter name, both of the above notes are A's. This works all the way up and down the fretboard. So, since you already know the notes on the sixth string, you can now memorize them on the fourth string.



Memorize the notes on the third string in the same way.



Below, write the name of each note in the blank space provided.

T	12	12	9	5	5	3	6	11	10
A	12	7	3	4	6	11	10	10	12
B	7	3	4	6	11	10	10	12	12

1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_ 4) \_\_\_\_\_ 5) \_\_\_\_\_ 6) \_\_\_\_\_ 7) \_\_\_\_\_ 8) \_\_\_\_\_ 9) \_\_\_\_\_ 10) \_\_\_\_\_ 11) \_\_\_\_\_ 12) \_\_\_\_\_

- |              |      |      |
|--------------|------|------|
| 12. A        | 8. F | 4. E |
| 11. F# or Gb | 7. C | 3. E |
| 10. C# or Db | 6. G | 2. D |
| 9. C# or Db  | 5. G | 1. G |

Answers:

# THE MODES

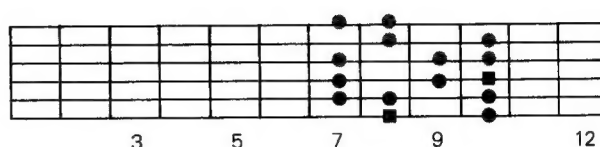
Originating in early Christian chants and hymns, the modes were the predecessors of our current scale system of major/minor tonality. About 400 years ago, the modal system slowly began to be replaced, but it was not completely abandoned.

In music today, use of the modes is reappearing, but in an expanded way that incorporates them into our current scale system. Although the function of the modes today is different than when they formed the foundation of music, they are still called by their original Greek names.

Modes are displaced scales. Below, the modes of the C major scale are shown. Notice that each mode uses the same notes; only the root changes.

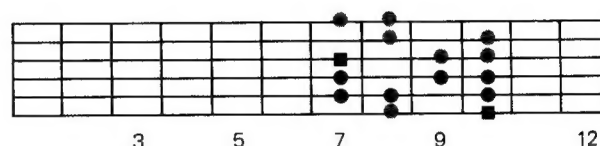
## Ionian

**begins on 1st**  
(same as major scale)



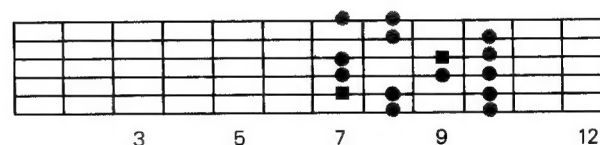
## Dorian

**begins on 2nd**



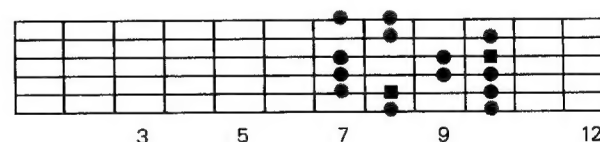
## Phrygian

**begins on 3rd**



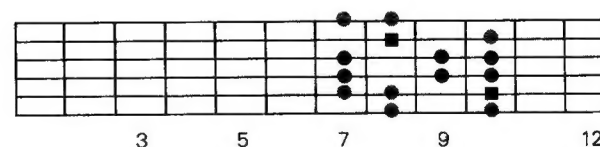
## Lydian

**begins on 4th**



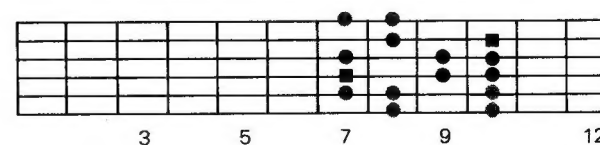
## Mixolydian

**begins on 5th**



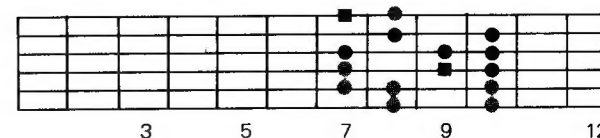
## Aeolian

**begins on 6th**  
(same as natural  
minor scale)




## Locrian

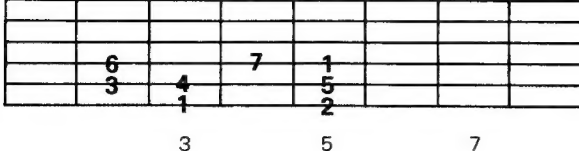
**begins on 7th**




For comparison, each mode will begin on the same note, below. On the cassette, a short melody is played using each mode. Listen for a mood or feeling to associate with each one. With practice you can eventually learn to recognize each mode just by sound. This will enable you to learn by ear much faster as well as more accurately.

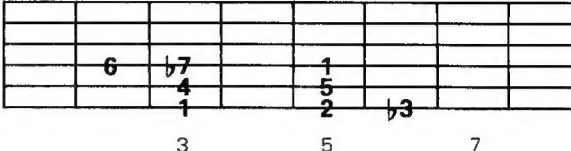
- 1  Listen to the bright, happy mood of the Ionian mode (same as the major scale).


**G Ionian**



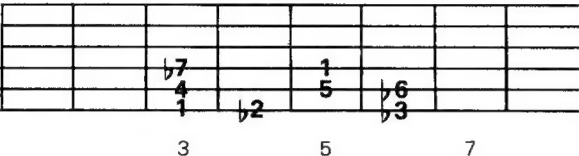
- 2  Listen to a melody using the Dorian mode. Dorian is minor and sounds basically dark, but brighter than natural minor.


**G Dorian**



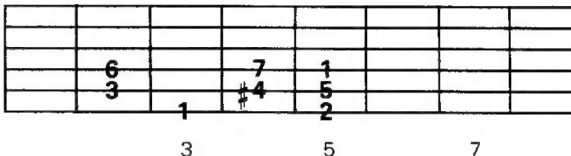
- 3  Listen to the dark, "Spanish" sound of the Phrygian mode.


**G Phrygian**



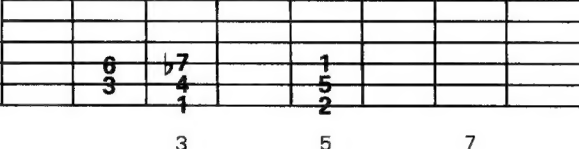
- 4  Listen to the lost, or mysterious sound of the Lydian mode.


**G Lydian**



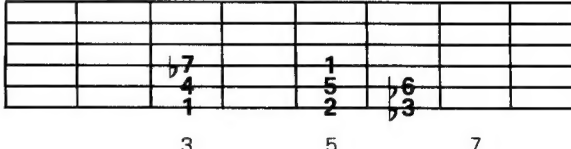
- 5  Listen to a melody in the Mixolydian mode. Mixolydian is like the major scale, but less triumphant and conclusive; more "easy going."


**G Mixolydian**



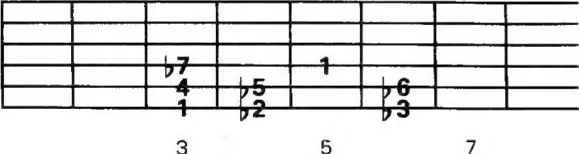
- 6  Listen to the dark, heavy, and medieval sound of the Aeolian mode (same as the natural minor scale).

**G Aeolian**



- 7  Locrian combines the mysterious sound of Lydian with the dark, Spanish sound of Phrygian.

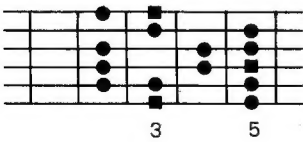
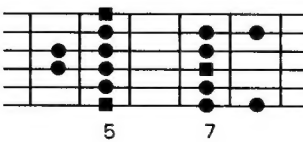
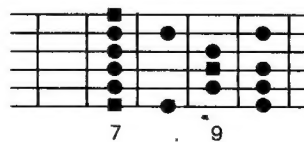
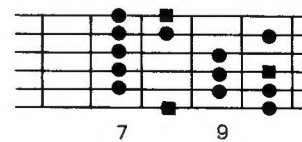
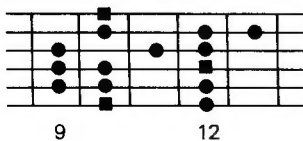
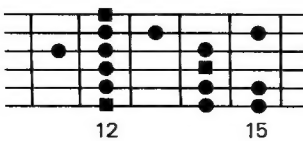
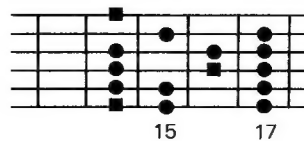
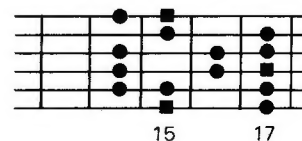
**G Locrian**



The Ionian and Aeolian modes are the same as the major and natural minor scales, respectively. The modal names are only used within the context of other modes.

Below are the modes derived from G major. Memorize the patterns and the sequence and use it as a warm-up exercise. How the modes are used in songs and solos will be covered in PART VIII.

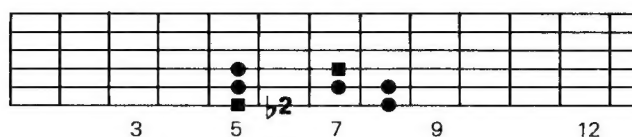
8 

<p><b>G Ionian</b></p> 	<p><b>A Dorian</b></p> 	<p><b>B Phrygian</b></p> 	<p><b>C Lydian</b></p> 
<p><b>D Mixolydian</b></p> 	<p><b>E Aeolian</b></p> 	<p><b>F# Locrian</b></p> 	<p><b>G Ionian</b></p> 

# THE PHRYGIAN MODE

As you have just learned in the previous section, the Phrygian mode (or scale) is the same as the natural minor except for the second degree. The tones of the Phrygian are 1,  $b2$ ,  $b3$ , 4, 5,  $b6$ ,  $b7$ , 1.

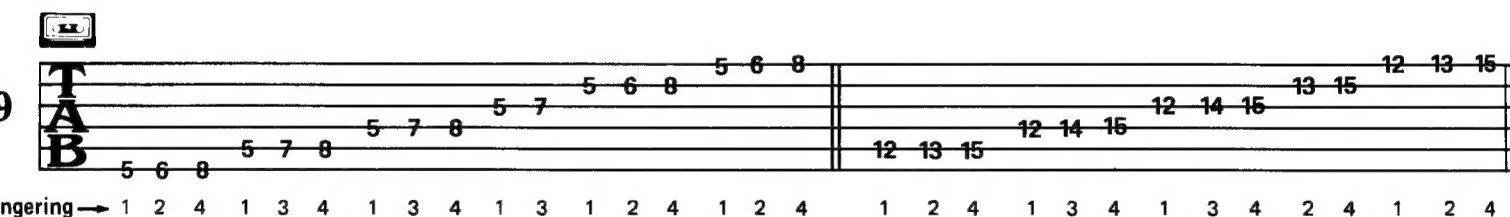
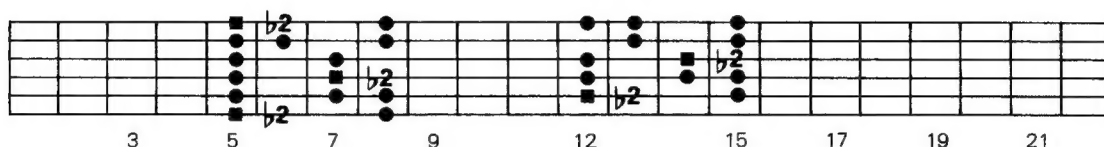
## A Phrygian



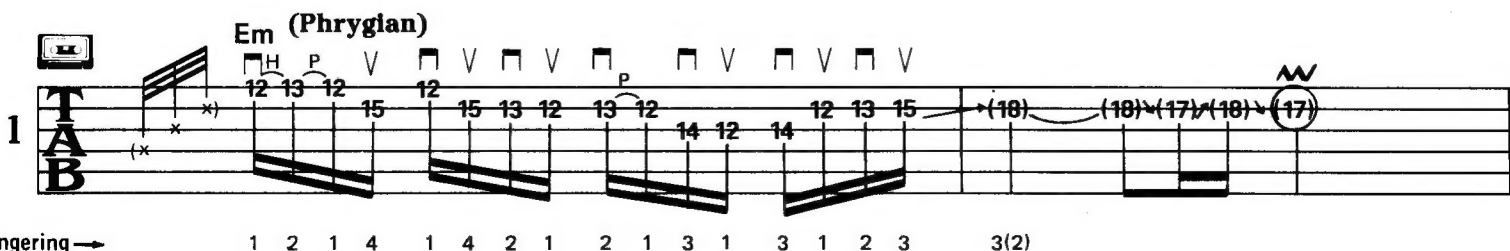
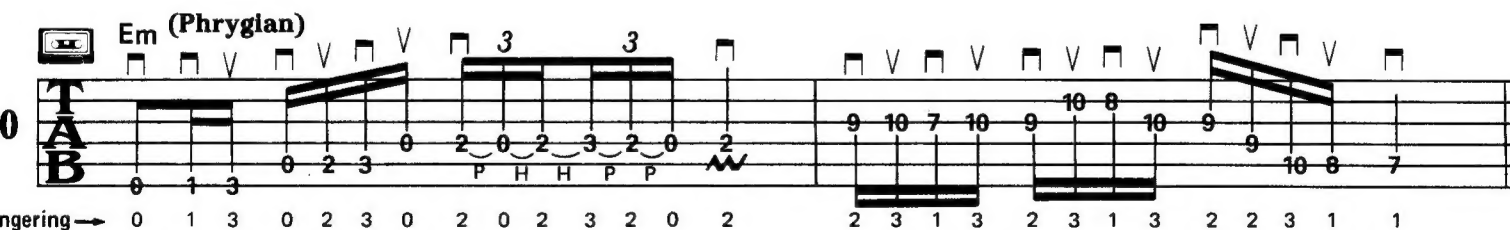
Not only does the Phrygian mode sound dark and heavy, but the flatted second degree pulls strongly down to the root and gives a "Spanish" sound, characteristic of flamenco guitar.

Below are the Phrygian patterns with the roots on the sixth and fifth strings. Notice the similarity to the natural minor scale.

## A Phrygian



The following riffs use the Phrygian mode.



# THE SPANISH-FLAMENCO SCALE

The Spanish-flamenco scale is the same as the Phrygian except for the third degree. The tones of the Spanish-flamenco scale are 1,  $\flat 2$ , 3, 4, 5,  $\flat 6$ ,  $\flat 7$ , 1.

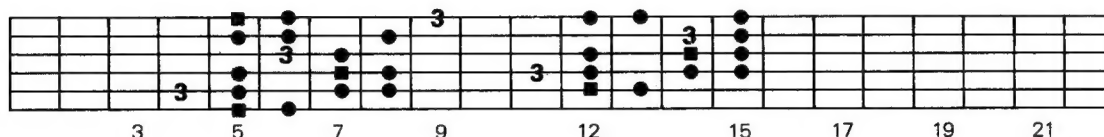
## A Spanish-flamenco



As in the Phrygian mode, the flatted second degree pulls strongly down to the root giving its characteristic flamenco sound. However, the Spanish-flamenco scale is not as dark sounding and the three-fret interval between the second and third degree gives an even more dramatic sound. The major third gives this scale a stronger and brighter sound than the Phrygian scale.

Below are the patterns for the Spanish-flamenco scale.

## A Spanish-flamenco



12

fingering → 2 3 1-1 3 4 1 3 4 2 3 1 2 4 1 2 4 2 3 1-1 3 4 1 3 4 3 4 1 2 4

Play the following riffs, noting where the major third of the Spanish-flamenco scale is used.

## A (Spanish-flamenco)

13

fingering → 3(2) 1 2 1 3 2 3 2 3 1 2 1 3 4 2 1 2 3 1 3

## A (Spanish-flamenco)

14

fingering → 3(2) 1 1 2 1 3 1 2 4 3 1 1 1 1 1 1 1 1 1 3 3 3 3 1

Thirty-second notes are twice the speed of sixteenth notes. There are eight notes per beat, or four on the downbeat and four on the upbeat. Learn the pattern below, then try tapping your foot with the beat very slowly.



Em

15 12 12 12 14 12 12 12 15 12 12 12 14 12 12 12 15 15 15 15 12 12 12 12 15 15 15 15 12 12 12 12

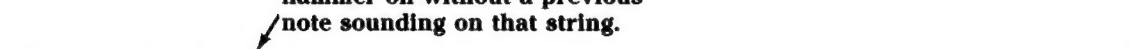
TAB

Count → 1 & 2 & 3 & 4 &

You may want to practice the exercises below as if they were written in sixteenth notes first. After you have the notes down, try getting the feel of the thirty-second notes (just tap your foot half as fast).


**E**


hammer on without a previous note sounding on that string.



ring → 1 2 4 2 1 2 1 4

**E**

**TAB**

ring → 2 3 2 1 2 3 2 1 2 3 2 1 2 etc.



 **MYSTIC PLACES**  
(Solo #7)

9



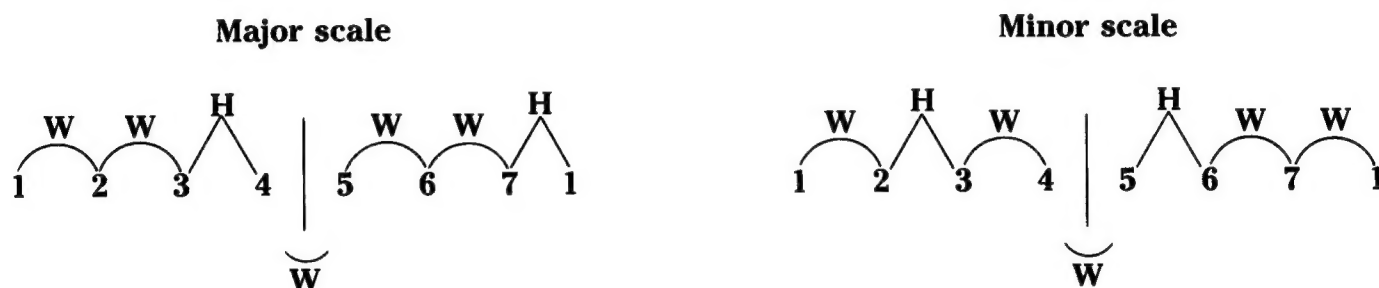
# PART VIII

## THEORY: KEYS AND SCALE STRUCTURES

The note on which a piece of music is based is called the **tonic** note. It is “home base,” and songs usually both start and end on it. During the song, there are short excursions away from the tonic, but each phrase usually returns to it.

When the music moves away from the tonic, it uses notes within a certain scale. When the scale used is major, the music is said to be in a **major key**, and, when the scale used is minor, the music is in a **minor key**.

Any note may serve as a tonic note for either scale. The distinctive qualities of the major and minor scales come from the organization of **whole and half steps** between scale tones (shown below). A “W” means a distance of a whole step (two frets) and an “H” means a half step (one fret).



Above, the pattern of scale tones is split in half so that you can more easily memorize the structures. In both scales, the lower and upper halves are separated by a whole step. The first four tones are called the lower tetrachord, the next four are called the upper tetrachord. Understanding scale structures will help you when playing in areas of the neck not as familiar to you. If you know your scale structures, you can construct these scale patterns as you improvise.

The notes used in a particular key are the same as those in the scale of the same name. For example, the notes in the key of F major are those in the F major scale, the notes in the key of C major are those in the C major scale, the notes in the key of A minor are those in the A minor scale, etc. All other notes are said to be “out of the key.”

Simple chords can be thought of as extended or expanded versions of their root note; it gives the note more weight and depth. Hence, chords may be built upon each note in the key. The chords in any key are numbered I, II, III, IV, V, VI, VII.


Also, each note of the scale may have an entire scale built upon it (the modes). How these scales relate to each other and the chords in the key is the subject of the following section.

# SCALE RELATIONSHIPS

## Major Keys

Below are the notes, chords, and related modes in the key of G major. A “^” indicates a distance of a half step. All other notes are a whole step apart.

**G major:**




<b>Notes:</b>	<b>G</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F#</b>	<b>G</b>
<b>Tones:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>1</b>
<b>Chords:</b>	<b>G</b>	<b>Am</b>	<b>Bm</b>	<b>C</b>	<b>D</b>	<b>Em</b>	<b>F#dim</b>	<b>G</b>
<b>Numbering:</b> (major chords are circled)	<b>ⓐ</b>	<b>II</b>	<b>III</b>	<b>ⓓ</b>	<b>Ⓥ</b>	<b>VI</b>	<b>VII</b>	<b>ⓐ</b>
<b>Related modes:</b>	<i>Ionian</i>	<i>Dorian</i>	<i>Phrygian</i>	<i>Lydian</i>	<i>Mixolydian</i>	<i>Aeolian</i>	<i>Locrian</i>	<i>Ionian</i>

This pattern can be moved, or **transposed**, to other keys by shifting the entire pattern to begin on the new tonic note.

For example, the notes, chords, and related modes in the key of E major are shown below.

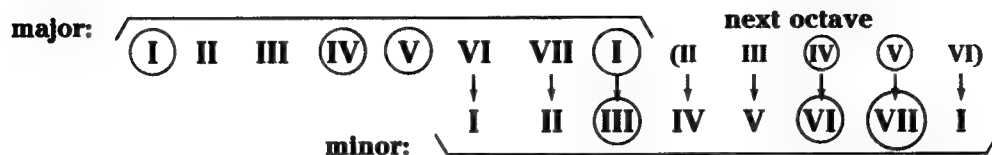
**E major:**



<b>Notes:</b>	<b>E</b>	<b>F#</b>	<b>G#</b>	<b>A</b>	<b>B</b>	<b>C#</b>	<b>D#</b>	<b>E</b>
<b>Tones:</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>1</b>
<b>Chords:</b>	<b>E</b>	<b>F#m</b>	<b>G#m</b>	<b>A</b>	<b>B</b>	<b>C#m</b>	<b>D#dim</b>	<b>E</b>
<b>Numbering:</b> (major chords are circled)	<b>ⓐ</b>	<b>II</b>	<b>III</b>	<b>ⓓ</b>	<b>Ⓥ</b>	<b>VI</b>	<b>VII</b>	<b>ⓐ</b>
<b>Related modes:</b>	<i>Ionian</i>	<i>Dorian</i>	<i>Phrygian</i>	<i>Lydian</i>	<i>Mixolydian</i>	<i>Aeolian</i>	<i>Locrian</i>	<i>Ionian</i>

## Minor Keys

The sixth tone of the major scale is the tonic for the Aeolian mode (also called the natural minor scale). To find the pattern for a minor scale, we will number the VI chord as the new tonic (I chord). The numbering of the chords changes to reflect the position of the tonic, however, the sequence of chords and modes does not change. The major chords are circled below.



As with the major keys, the minor keys may also be based on any note. Below, the notes, chords, and modes in the key of Am are shown. To transpose to other keys, shift the whole pattern to begin on the new tonic.

### A minor:



Notes:

A B C D E F G A

Tones:

1 2  $\flat 3$  4 5  $\flat 6$   $\flat 7$  1

Chords:

Am Bdim C Dm Em F G Am

Numbering:

(major chords are circled)

I II III IV V VI VII I  
Aeolian Locrian Ionian Dorian Phrygian Lydian Mixolydian Ionian

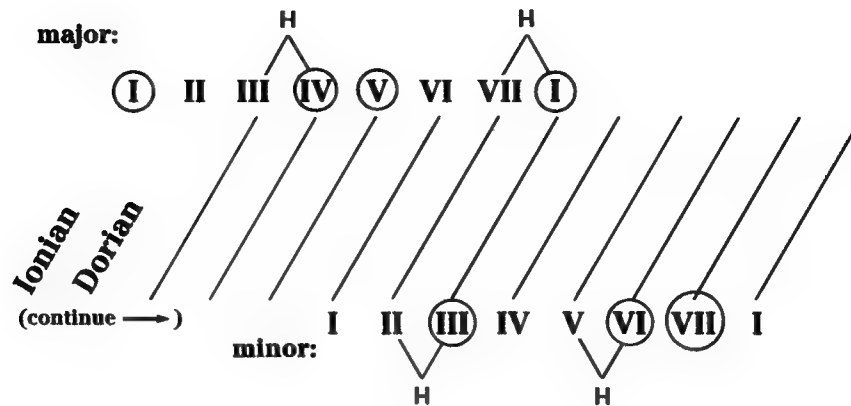
Related Modes:

## Other Modes as Keys

Songs may be based on other modes as well as on the major and natural minor scales. When this is the case, the chords are renumbered, as above, to reflect the new position of the tonic. But again, the pattern of chords doesn't change — only which tone is considered "home base" changes.

Songs often borrow notes from different scales. So, don't think of the keys as rigid rules for what notes you are limited to, but rather think of major and minor as two main categories that may borrow notes from any of the other modes, or even each other. Just learn the rules before you break them so that when you borrow from another scale, change keys, or use out-of-key notes, you know what you are doing.

Below is the pattern of chords in the major and minor keys. Write in the related modes and use them to find the scale relationships below.



## Exercises

**Example:** In the key of C, play the mode based on E.

**Step 1.** Find and play the notes in the key of C (the C major scale).

**Step 2.** Find which number of that scale E is. (E = third)

**Step 3.** Which mode starts on the third note of a major scale? (Phrygian)

**Step 4.** Play E Phrygian.

1. In the key of G, play the mode based on G.
2. In the key of G, play the mode based on D.
3. In the key of C, play the mode based on D.
4. In the key of A, play the mode based on F#.
5. In the key of E, play the mode based on C#.
6. In the key of Em, play the mode based on G.
7. In the key of Em, play the mode based on C.
8. In the key of Am, play the mode based on C.
9. In the key of Em, play the mode based on B.
10. In the key of F#m (Phrygian), play the mode based on G.

## Answers

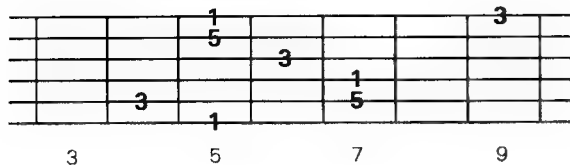
- |                      |                    |
|----------------------|--------------------|
| 1. Play G Ionian     | 6. Play G Ionian   |
| 2. Play D Mixolydian | 7. Play C Lydian   |
| 3. Play D Dorian     | 8. Play C Ionian   |
| 4. Play F# Aeolian   | 9. Play B Phrygian |
| 5. Play C# Aeolian   | 10. Play G Lydian  |

By now you should have the sequence of modes memorized. This will be helpful to know when you are learning to solo over each chord (page 15).

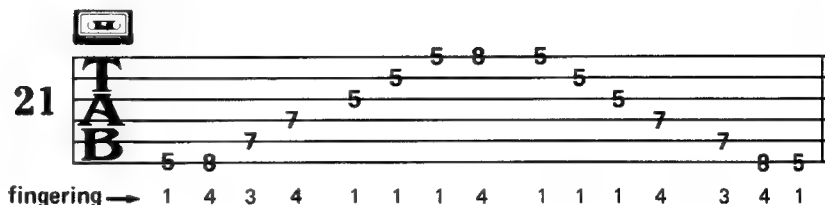
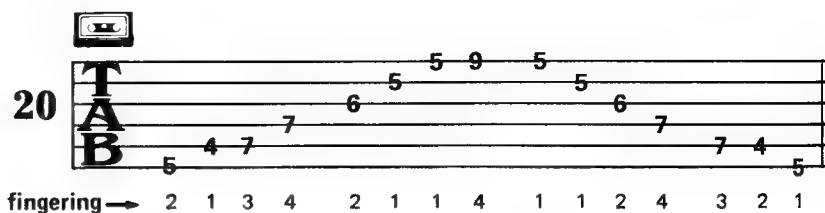
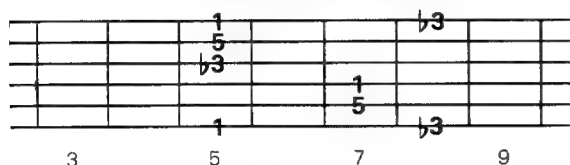
# ARPEGGIOS

An **arpeggio** consists of the notes of a chord played one after another rather than all together, as in a chord. Below is an A major arpeggio pattern (tones 1, 3, 5) and an A minor arpeggio pattern (tones 1,  $\flat$ 3, 5). Notice the notes of the A bar chord (E-form) within the arpeggio patterns.

## A major arpeggio

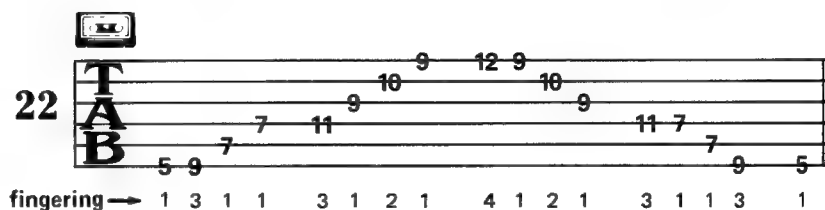
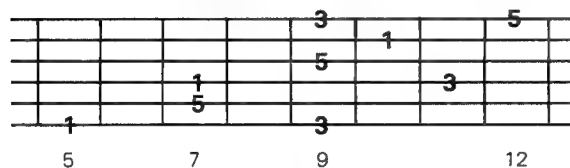


## A minor arpeggio

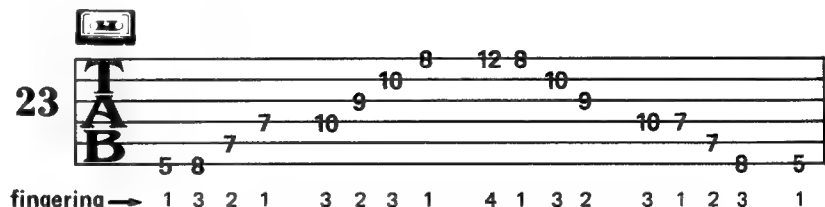
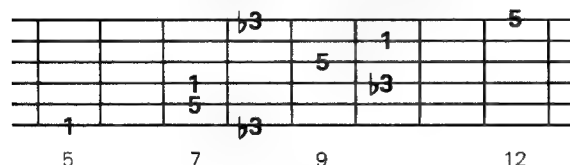


The arpeggio patterns below are extended forms. Notice the notes of the A power chords (E and D-form) within the arpeggios.

## A major arpeggio

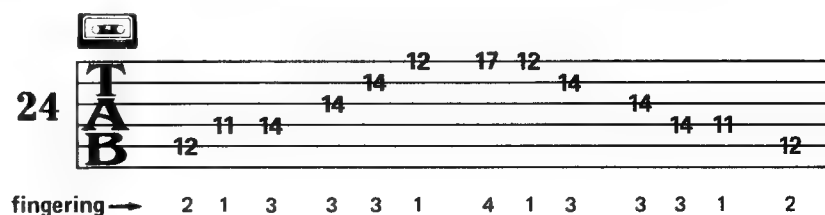
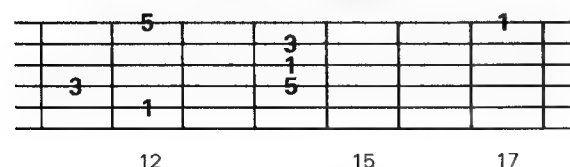


## A minor arpeggio

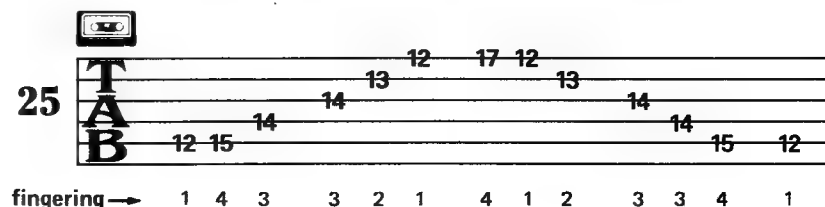
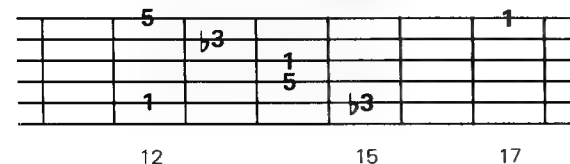


Below are the arpeggio patterns with the root on the fifth string. Notice the notes of the A bar chord (A-form) in the arpeggio patterns.

## A major arpeggio



## A minor arpeggio



# SOLOING OVER EACH CHORD

To solo over most chord progressions, it isn't necessary to change scales or patterns over each chord because all of the chords are in the same key. Actually, when the chords underneath the lead change, a different mode is being used because the root is determined by the bass and rhythm guitar. Notice below which modes are being used as the root changes. The lead line, however, does not leave the E minor scale pattern.

Minor key:                      I                      II                      III                      IV                      V                      VI                      VII                      I

                                 Aeolian   Locrian   Ionian   Dorian   Phrygian   Lydian   Mixolyd   Aeolian

Em

26

chords → Em(I)                      G(III)                      C(VI)                      D(VII)

Modes used → Aeolian                      Ionian                      Lydian                      Mixolydian

Above, the scale pattern for the lead never changes, but the notes sound different over each different chord.

Not all of the notes are of equal importance. The strongest note will be the root. Next comes the fifth, and then the third. Below, exercise 27 emphasizes the root of each chord while exercise 28 uses the arpeggios of each chord. Underneath 28, the arpeggio patterns used are shown.

Em      C(no 3rd)                      D(no 3rd)                      E(no 3rd)

27

fingering →      3(2)   3   1   2                      3(2)   3   1   3                      3(2)   3(2)   1                      3   1   3   1   3   1   3   1   3

Em      C(no 3rd)                      D(no 3rd)                      E(no 3rd)

28

fingering →      1   2   1   4   1   2                      1   2   4   1   2   1                      3(2)                      3   1   3   1   1 - 3

C major

12                      15

D major

12                      15                      17

E minor

12                      15                      17                      19

The run below is in the key of Em. Over the C chord, in the second measure, the C major arpeggio is emphasized. (Remember that notes on the downbeat are naturally emphasized more than notes that are not on the downbeat.) In the key of Em, when C (VI) is made to be the root, you have the C Lydian mode. Underneath the run, C Lydian (or Em) is shown with the notes of the C arpeggio in heavy print.

29

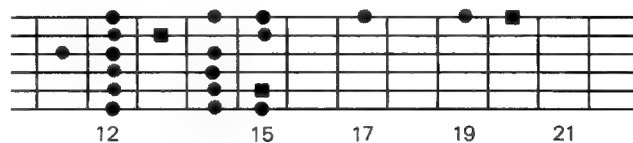
Em E(no 3rd)

fingering → 1 3 1 2 3 2 1 3 1 3 2 1 2 1 4 3 1 3 1 3

C(no 3rd)

fingering → 3 2 3 1 3 1 3 1 2 1 2 3 1 2 1 3 2 1 2 4 1 4 3 1 1 2 3 3(2) 3(2)

### C Lydian



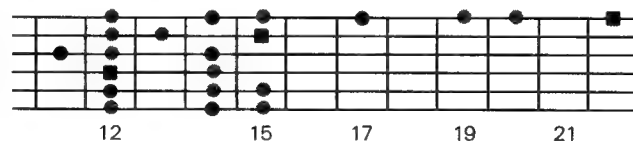
Notice the arpeggios that are emphasized. Underneath the run, D Mixolydian (same notes as Em) is shown with the D major arpeggio in heavy print.

30

Em E(no 3rd) D(no 3rd) C(no 3rd) D(no 3rd)

fingering → 3(2) 3 2 2 2 1 2 1 2 2(1) 2(1) 2 1 - 1 4 1 2 1

### D Mixolydian



Special consideration doesn't have to be given to the notes of each underlying chord. In fact, always following the chords may begin to make all your solos sound alike. Sometimes, you may want to just stay in the same scale pattern and ignore the chord changes.

Solos by Randy Rhoads and Jake E. Lee fluctuate between these two approaches to soloing; sometimes following the chords and sometimes not. Eddie Van Halen makes little use of following the chords in the progression. On the other hand, George Lynch and Yngwie Malmsteen often do.

Of course, how much you follow the underlying chords is up to you. Play what sounds good to you, and develop your own style.



# CHOOSING SCALES FOR SOLOING AND IMPROVISATION

To solo, use the same type of scale as the chord progression uses. If the rhythm line doesn't use a complete scale (and it usually doesn't), figure out which scale it resembles most.

Look at the rhythm line below, and find the tones used. (For more practice at this, see Rhythm Guitar 2, Parts VII, VIII). To the right, the tones relative to A are shown.

31

A(no 3rd) F(no 3rd) G(no 3rd)

Tones in the key of A

1 2 2 b3 3 4 5 6 7 1

3 5

The riff above is based on A and uses the scale tones 1, 2, b3, 4, b6, b7: every note in the A natural minor scale except for the fifth. To solo over this, you could use the natural minor, pentatonic, or blues scale.

Play the following rhythm.

32

G(no 3rd) Bb(no 3rd) C(no 3rd) Bb(no 3rd) C(no 3rd) Bb(no 3rd)

This is in Gm, but it remains ambiguous as to what type of minor. The scale tones used are 1, b3, and 4, which will fit with any type of minor scale. The simpler the chord progression is, the more is left up to you about what notes to use. Choose which scale you think sounds best, or try borrowing notes from different scales. You don't have to stay with just one.

Below, the chords don't even indicate whether the progression is in a major or minor key. (Scale tones used are only 1 and 4; remember that the third distinguishes between major and minor.) Here you could use any scale. Underneath the rhythm line is an example of a lead that changes back and forth between major and minor.

33

E(no 3rd) A(no 3rd)

34

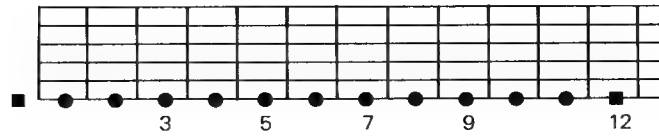
fingering → 3(2) 1 3 1 3 1 3 1 3 3 3 3 3 1 3

12 12 x 12 x x 12 17 (19) 17 16 15 12 15 12 15 14 12 14 12 13 13

fingering → 1 1 1 1 1 1 1 3(2) 3 2 3 1 3 1 3 2 1 3 1 2

# USING THE CHROMATIC SCALE

The chromatic scale is a twelve-tone scale that has only one half-step between each tone. In other words, it uses every note without skipping any. The chromatic scale beginning on E is shown below on the sixth string.



The chromatic scale is rarely used in large segments. Usually, notes of this scale are used as passing tones (see Lead Guitar 1, page 25). They may act to "smooth out" a run up or down to an important note.

**35**

Em chromatic

9 11 12 10 12 13 10 11 12 13 12 11 12

fingering → 1 3 4 1 3 4 1 2 3 4 3 2 3

Detailed description: This guitar tab exercise is labeled '35'. It features an Em chord symbol and a 'chromatic' label. The notation is on a six-line staff. The notes are: 9 (fret 3), 11 (fret 5), 12 (fret 7), 10 (fret 9), 12 (fret 11), 13 (fret 12), 10 (fret 9), 11 (fret 11), 12 (fret 12), 13 (fret 13), 12 (fret 11), 11 (fret 10), and 12 (fret 9). The fingering sequence is 1 3 4 1 3 4 1 2 3 4 3 2 3.

**36**

Em chromatic

9 7 10 9 7 8 7 10 7 10 9 8 7

3 1 4 3 1 2 1 4 1 4 3 2 1

Detailed description: This guitar tab exercise is labeled '36'. It features an Em chord symbol and a 'chromatic' label. The notation is on a six-line staff. The notes are: 9 (fret 3), 7 (fret 2), 10 (fret 5), 9 (fret 4), 7 (fret 2), 8 (fret 3), 7 (fret 2), 10 (fret 5), 7 (fret 2), 10 (fret 5), 9 (fret 4), 8 (fret 3), and 7 (fret 2). The fingering sequence is 3 1 4 3 1 2 1 4 1 4 3 2 1.

You can use the chromatic scale when building your own runs. If you want to reach a certain note on a certain beat, and you want to maintain a certain rhythm (sixteenth notes, for example), the scale you are using may not have the right number of notes. You can borrow a note or two from the chromatic scale. It can sound really good to use some of these out-of-key notes after you have been following a scale. It also sounds good after playing notes with bigger distances between them, to throw in a few chromatic tones.

Sometimes, a whole group of notes is moved up or down chromatically. For examples of this, listen to Randy Rhoads' solo in "I Don't Know" and in the lead fills in the second and third chorus of "Crazy Train." It is also used by Glenn Tipton at the beginning of his solo in "Electric Eye".

**37**

Em chromatic

15 (17) 15 12 15 12 15 (17) 15 12 14 12 15 13 12 14 12 11 12 11 11 10 10 9 10 9 8 7 9 7 9 12 (14)

fingering → 3(2) 3 1 3 1 3(2) 3 1 2 1 3 2 1 3 1 2 1 2 1 2 1 2 1 2 1 2 1 3 1 3 1

Detailed description: This guitar tab exercise is labeled '37'. It features an Em chord symbol and a 'chromatic' label. The notation is on a six-line staff. The notes are: 15 (fret 17), 15 (fret 15), 12 (fret 12), 15 (fret 15), 12 (fret 12), 15 (fret 17), 15 (fret 15), 12 (fret 12), 14 (fret 14), 12 (fret 12), 15 (fret 15), 13 (fret 13), 12 (fret 12), 14 (fret 14), 12 (fret 12), 11 (fret 11), 12 (fret 12), 11 (fret 11), 11 (fret 11), 10 (fret 10), 10 (fret 10), 9 (fret 9), 10 (fret 10), 9 (fret 9), 8 (fret 8), 7 (fret 7), 9 (fret 9), 7 (fret 7), 9 (fret 9), and 12 (fret 14). The fingering sequence is 3(2) 3 1 3 1 3(2) 3 1 2 1 3 2 1 3 1 2 1 2 1 2 1 2 1 2 1 2 1 3 1 3 1.

**38**

Am chromatic

13 15 13 14 14 16 14 15 15 17 15 16 16 18 16 17 17 20 17 19 17 20 17 20 22

fingering → 1 3 1 2 1 3 1 2 1 3 1 2 1 3 2 1 1 3 1 2 1 3 1 3 3(2)

Detailed description: This guitar tab exercise is labeled '38'. It features an Am chord symbol and a 'chromatic' label. The notation is on a six-line staff. The notes are: 13 (fret 5), 15 (fret 7), 13 (fret 5), 14 (fret 6), 14 (fret 6), 16 (fret 8), 14 (fret 6), 15 (fret 7), 15 (fret 7), 17 (fret 9), 15 (fret 7), 16 (fret 8), 16 (fret 8), 18 (fret 10), 16 (fret 8), 17 (fret 9), 17 (fret 9), 20 (fret 12), 17 (fret 9), 19 (fret 11), 17 (fret 9), 20 (fret 12), 17 (fret 9), 20 (fret 12), and 22 (fret 14). The fingering sequence is 1 3 1 2 1 3 1 2 1 3 1 2 1 3 2 1 1 3 1 2 1 3 1 3 3(2).

# RHYTHMIC PATTERNS

The riffs below use a group of five notes repeated first over sixteenth notes and then over triplets.

39

Em

fingering → 1 3 1 2 1 1 3 1 2 1 1 3 3(2)

**TAB**

Em

40

fingering → 1 3 1 2 1 1 3 1 2 1 1 3 1 2 1 1 3 1 3(2)

The next riffs use rhythmic patterns in another way. Here, the group of notes isn't exactly repeated, but instead, uses a contour. The first riff uses a three-note contour over sixteenth notes; the next uses a four-note contour over triplets.

**Am**

41 TAB

fingering → 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3 1 3(2)

**Bm**

42 **TAB**

fingering → 3 1 3 1 4 3 1 3 1 4 3 1 4 1 4 3 1 4 1 3(2)

# SPEED EXERCISES FOR "DRASTIC MEASURES"

43

Em

fingering → 2 1 1 3 1 2 1 1 3 1

44

Em

2 1 1 3 1 2 1 1 3 1 3 1

45

Em

fingering → 3 1 3 1 3 1 3 1 3 1 3 1

46

Em

3 1 3 1 3 1 2 1 3 1 3 1

47

Em

fingering → 3 1 3 1 3 1 3 1 3 1 3 1

48

Em

3 3 2 1 3 3 2 1 3 3 2 1 3 3 2 1

Exercise 49 uses an odd rhythmic grouping of five evenly spaced notes in one beat.

49

Em

fingering → 1 3 1 2 1 2 1 3 1 2 1 2

50

D

4 2 1 3 3 1 2 3 1 3 3 1

51

Em

fingering → 1 3 1 3 1 3(2) 1 1

52

Em

**“Drastic Measures”** is in the key of Em. The first half of the solo stays basically over the pentatonic pattern. Notice the rhythmic pattern, contours, and chromatic tones used. A lick using the Em arpeggio ends the first half. The second half of the solo uses arpeggios and modes to emphasize the notes of each chord.

## **DRASTIC MEASURES** (Solo #8)

**1** Em 12

**2**

**3**

**4**

**5** E

**6** C

**7** D

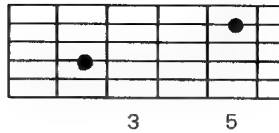
**8** E

1 3 1 3 1 3(2) 1 1 3 1 3 1 3 1 3 1 3 2 1

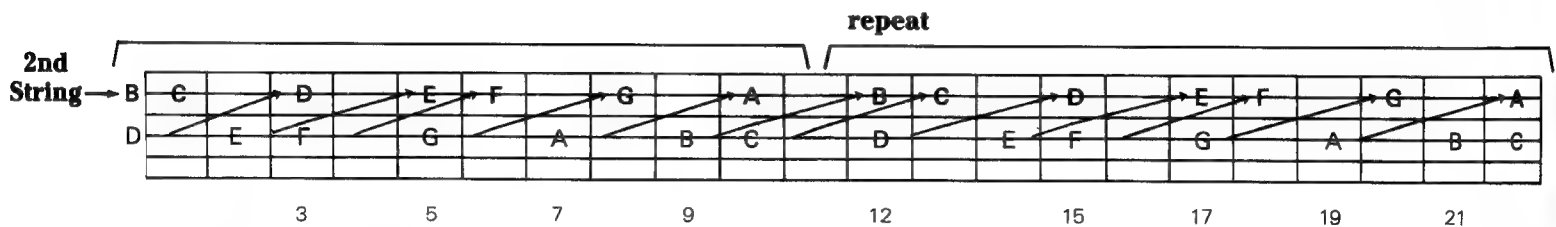
# PART IX

## NOTES ON THE FIRST AND SECOND STRINGS

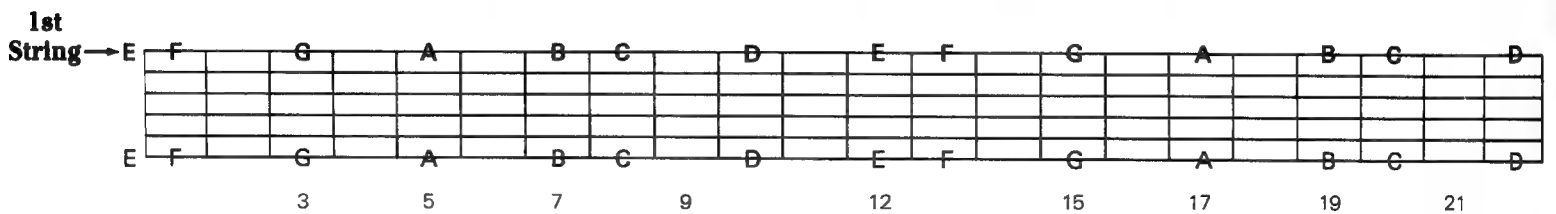
The notes below are one octave apart. Notice that the pattern for octaves between the second and fourth strings is different than the octave pattern on the other strings. This is because, when tuning, the second string is tuned one fret lower and, therefore, to compensate for the drop, the pattern must be raised one more fret.



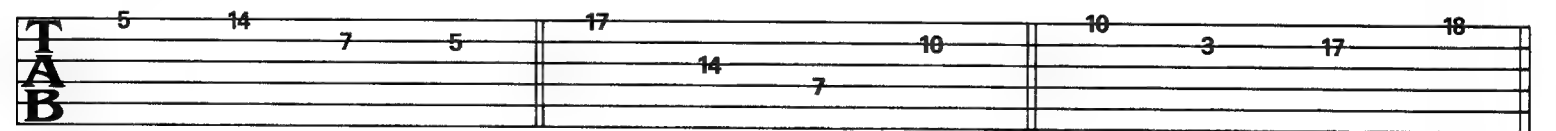
This works up and down the fretboard, so, since you already know the names of the notes on the fourth string, you can now memorize them on the second string.



This octave pattern also applies to the notes on the first and third strings. However, the notes on the first string are also the same as on the sixth string, so it is easier to memorize them in the way shown below.



Below, write in the note names.



1) \_\_\_\_\_ 2) \_\_\_\_\_ 3) \_\_\_\_\_ 4) \_\_\_\_\_ 5) \_\_\_\_\_ 6) \_\_\_\_\_ 7) \_\_\_\_\_ 8) \_\_\_\_\_ 9) \_\_\_\_\_ 10) \_\_\_\_\_ 11) \_\_\_\_\_ 12) \_\_\_\_\_

12. A# or Bb
11. E
10. D
9. D

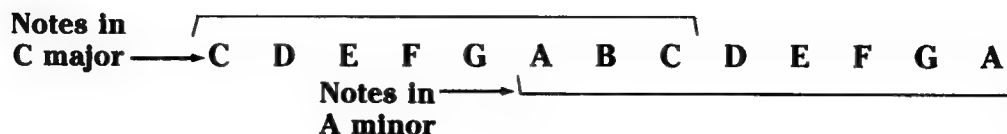
8. A.
7. A.
6. A
5. A

4. E
3. F# or Gb
2. F# or Gb
1. A

Answers

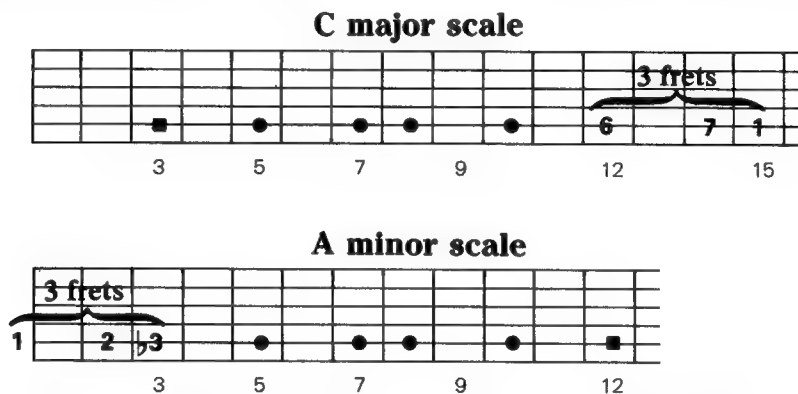
# RELATIVE MAJOR AND MINOR

The keys of C major and A minor are related to each other. Both keys use exactly the same notes (only the tonic, and the subsequent numbering of the tones and chords is different).



The C major and A minor chords and scales are also related. C major is said to be the **relative major** of Am, and Am is the **relative minor** of C major.

Play down the C major scale and you'll find that the 6th tone (A) is three frets below the root. Then play up the A minor scale. The third note (C) is three frets above the root, A.



**In each case, the relative minor is always three frets below its relative major.**

Since music in a minor key sounds darker and heavier, and music in a major key sounds brighter and happier, changing the key to the relative major/minor gives a strong mood change. "Crazy Train," for example, begins in F#m and changes to the relative major, A, for the verses. The choruses are back in F#m, which makes them sound heavier and darker in contrast to the verses, which sound happier. Listen for this type of key change in other songs as well.

Find the relative major or minor in the exercises below. Answers on next page.

## Exercises

1. What is the relative minor of G?
2. What is the relative minor of D?
3. What is the relative minor of E?
4. What is the relative major of C#m?
5. What is the relative major of Em?
6. What is the relative major of Dm?
7. What is the relative minor of A?
8. What is the relative major of Am?



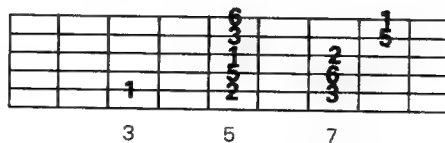
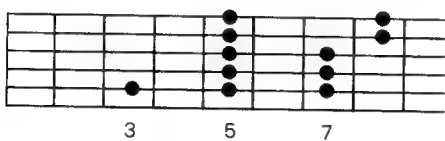
## Answers

1. Em      3. C#m      5. G      7. F#m  
2. Bm      4. E      6. F      8. C

## SOLOING IN A MAJOR KEY

Since C major and A minor are related, their scales share the same notes. The C major pentatonic and A minor pentatonic scales also share the same notes. Below is the C major pentatonic scale. Notice that it is the same pattern as A minor pentatonic. The tones, however, are different when C is the root.

### C major pentatonic



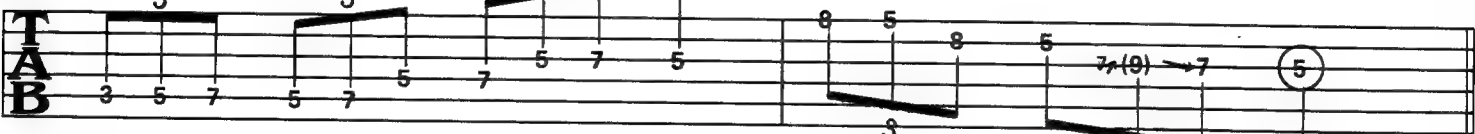
**ascending**

**descending**



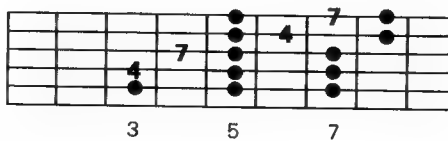
ering → 1    3—3    1    3    1    3    1    4    1    4    4    1    4    1    3    1    3    1    3    1—1

**Play the following riff in the major pentatonic scale.**



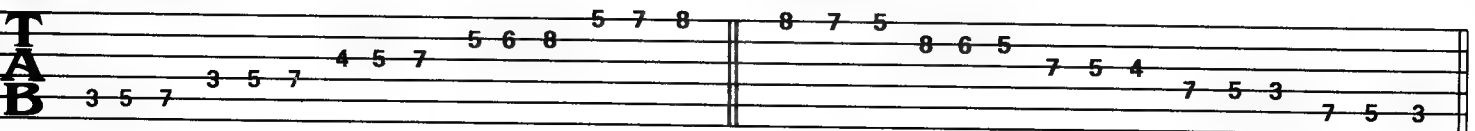
ring  $\rightarrow$  1 3—3 1 3 1 3 1 3 1 4 1 4 1 3(2) 3 1

The complete C major scale is shown below. The notes are the same as A minor (the pattern is slightly rearranged for playing convenience).



**ascending**

**descending**



ring → 1 2 4 1 2 4 1 2 4 1 2 4 1 3 4 4 3 1 4 2 1 4 2 1 4 2 1 4 2 1

The riff below uses the major scale.

56

A

fingering → 1 3 1 3 1 3 2 1 2 1 3 2 1 2 1 3 1 3 1 3 1 3 2 1 3(2) 3(2) 3(2)

Often the seventh tone of the major scale is flatted (making the Mixolydian mode). This gives the scale a smoother, less pure sound, but it is still basically bright and happy. The following riff uses this scale.

57

A

fingering → 3 1—1 2 1 3 1 3 3(2) 3 1—1 2 1 3 1 3(2)

## INTERVALS

**Intervals** are distances between pitches. The distance from the root to the fifth tone of the major scale is called an interval of a **fifth**. Likewise, the interval from the root to the fourth tone is called a **fourth**, and so on.

The intervals are divided into two main categories: Perfect and Imperfect. The perfect intervals are unison, fourth, fifth, and octave, and they all sound relatively stable and clear, or consonant (opposite of dissonant). On the cassette the intervals are each played from the root A.

58

Unison

3 5

Perfect 4th

5 7

Perfect 5th

5 7

Octave

5 7

The imperfect intervals — second, third, sixth, and seventh — may each be major or minor. The major intervals are found in the tones of the major scale. The minor intervals are made by flattening the tone one half-step. (The Phrygian scale contains all of the imperfect intervals in minor form, and, in a sense is more purely minor than the scale we call the natural, or pure, minor.) On the cassette, each interval is played based on A.

59

major 2nd (whole step)

3 5 7

major 3rd

5 7 9

major 6th

5 7 9

major 7th

5 7

minor 2nd (half step)

3 5 7

minor 3rd

3 5 7

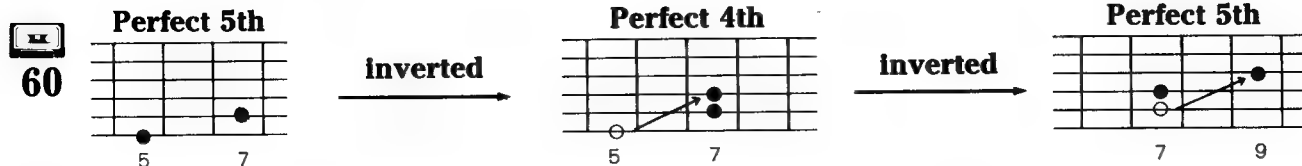
minor 6th

3 5 7

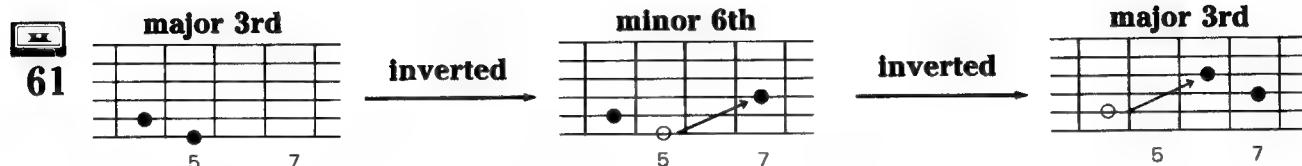
minor 7th

5 7

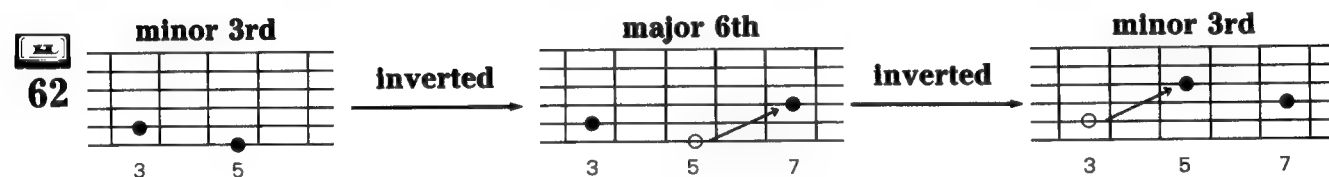
Intervals may be **inverted** by raising the lowest note an octave. An inverted fifth is a fourth and vica versa.



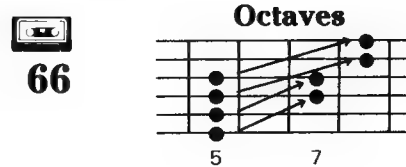
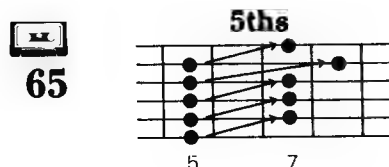
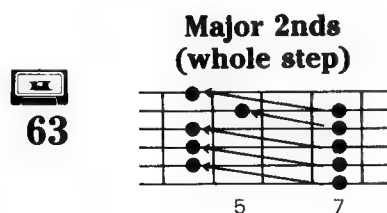
An inverted major third is a minor sixth and vica versa.



An inverted minor third is a major sixth and vica versa.



These intervals are the same across all the strings except when they cross between the second and third strings. In standard tuning all the strings are tuned a fourth apart, except for the second and third strings, which are one half-step less (major third). Intervals crossing these strings must be raised one fret to compensate for the drop.



# HARMONY

Harmony is the result of two different notes sounding together. For the most part, in heavy metal, harmony is kept very simple. Thirds are most commonly used, especially in the vocals during the choruses.

To harmonize a melody in thirds, raise each note of the melody up two tones of the scale.

67

becomes

Below, both parts are written together. Although it will sound better if each part is played on a separate guitar, it isn't necessary. (The positions of some of the notes must be altered to avoid having two notes on the same string at the same time.) The pattern of harmonized thirds will always follow the harmonized scale (See Rhythm Guitar Volume 2, Parts VII and VIII).

68

The parts below use intervals of 3rds, 4ths, and 5ths. Learn each part and notice the intervals used (written between the staves). In ex. 70, both parts are played together. You can practice playing part 2 along with part 1 on the cassette and vica versa.

69

guitar 1

guitar 2

major 3rd min 3rd min 3rd maj 3rd 5th 4th minor 3rd min 3rd maj 3rd 4th

70 Listen to both parts together on the cassette.

Two-part writing is a much more complicated approach to harmony. It is one of the fundamentals of classical music and is occasionally used in classically influenced heavy metal. Two-part writing involves a melody and a countermelody, which, although independant, are harmonically related and influence and reinforce each other.

The solo on the following page, "New Lands," uses a small amount of two-part writing at the beginning of the second phrase.

## NEW LANDS (Solo #9)

28

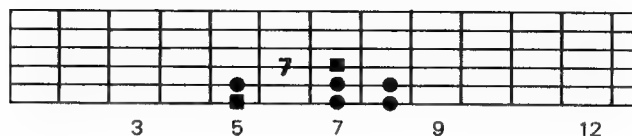


# PART X

## THE HARMONIC MINOR SCALE

The harmonic minor scale is the same as the natural minor except that the seventh degree is raised. The tones of the harmonic minor are 1, 2,  $b3$ , 4, 5,  $b6$ , 7, 1.

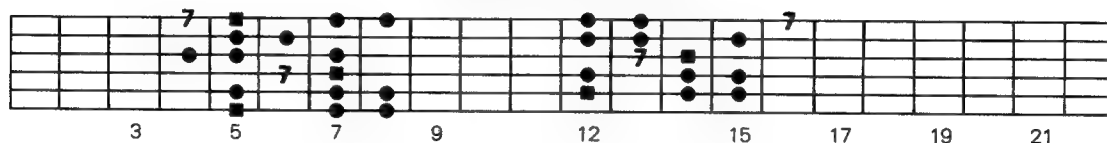
A harmonic minor



This scale may give an "Arabian" or "Egyptian" flavor. It can also sound classical, like the natural minor, except more dramatic.

Memorize the harmonic minor scale patterns below with the root on the sixth and fifth strings. Notice its similarity to the natural minor.

A harmonic minor



1

1 3 4 1 3 4 2 3 1 2 4 2 3 1 1 3 4 1 3 4 1 3 4 2 3 1 2 4 1 2 4

The following runs use the harmonic minor scale.

Am

1 3 4 1 3 4 3 1 4 3 1-1-1 1 3 4 1 3 4 2 4 1 3

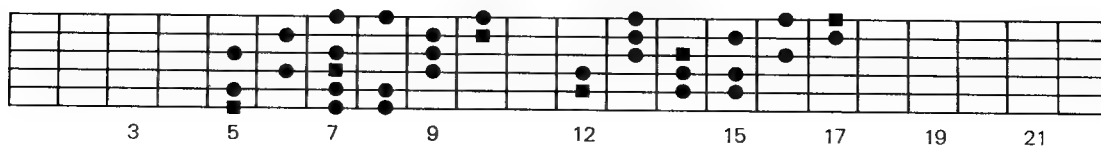
Am

4 3 4 1 2 4 1 2 1 4 3 1-1-1 2 4 2 1 4 2 1 3 2 4 3 1 4 3 1-1



The harmonic minor scale patterns below use three notes per string. These extended forms of the scale are often more convenient for longer runs.

### A harmonic minor



**74**

Am

TAB

5 7 8 5 7 8 6 7 9 5 7 9 6 9 10 7 8 10 12 14 15 12 14 15 13 14 16 13 15 17 13 16 17

fingering → 1 3 4 1 3 4 1 2 4 1 2 4 1 3 4 1 2 4 1 3 4 1 3 4 1 2 4 1 2 4 1 3 4

Practice playing these runs using the harmonic minor scale. Then, try making up some runs of your own in this scale.

**75**

Am

TAB

12 14 15 12 14 15 13 14 16 14 13 15 14 13 14 16 15 13 14 16 13 15 17 13 16 17 16 13 17

fingering → 1 3 4 1 3 4 1 2 4 2 1 3 2 1 3 2 3 1 2 4 1 2 4 1 3 4 3 1 4

**76**

TAB

10 9 10 7 8 10 8 7 10 8 7 10 9 7 10 9 6 9 7 5 9 7 6 8 7 5 8 7 5 8 7 5

fingering → 4 3 4 1 2 4 2 1 4 2 1 4 3 1 4 3 1 4 2 1 4 2 1 4 3 1 4 3 1

**77**

TAB

12 15 14 12 11 14 12 11 12 15 14 12 14 17 15 14 15 19 17 15 14 17 15 14 12 15 14 12 11

fingering → 1 4 3 1—1 4 2 1—1 4 3 1—1 4 2 1—1 4 2 1—1 4 2 1—1 4 3 1—1

**78**

Am

TAB

19 (20) 19 17 16 17 17 7 (9) 7 9 (10) 9 15 14 15 13 15 13 14 13 14 16 14 16 13 15 17 13 16 17 16 13 15 13

fingering → 3(2) 3 1—1 2 2 2(1) 2(1)-2(1) 2(1) 2(1) 3 2 3 1 3 1 2 1 2 4 2 4 1 2 4 1 3 4 3 1 2 1

# SPECIAL PICKING MECHANICS FOR ARPEGGIOS

Generally, arpeggios are picked with a consistent alternating pattern. Play the arpeggio exercises below.

79 **A**

fingering → 2 1 3 4 2 1 1 4 1 1 2 4 2 4 3 4 3 1 2

80 **Am**

fingering → 1 2 1 1 3 2 3 1 4 1 3 2 3 1 4 3 4 3 4 1 3 4 1 1 4 1 1 2 1

In the arpeggios below, it is convenient to use pull-offs. Exercise 82 uses a slightly altered position of the major arpeggio form with the root on the fifth string. Notice how it fits with the A chord at that position.

81 **Am**

fingering → 3 2 1 4 1 2 3

82 **A**

fingering → 1 1 4 4 4 1 1

A **brush stroke** can be used to play faster arpeggios. To do this, rake across the appropriate strings (up or down). To keep all the strings from ringing together, press on each fret only when you want the note to sound. Your left hand will roll pressure across the strings, lifting up on each string as you move onto the next.

83 **Em**

fingering → 3 1 1 1 4 1 1 1 3

The brush stroke is also used to play **grace notes**. Grace notes are short, quick, "pre" notes that are played in time stolen from the previous note. They are similar to the rake (see Volume 1, page 27), however, the rake uses only muted strings with no specific pitch.

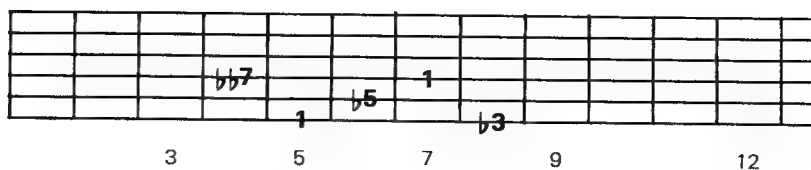
84 **Am**

fingering → (3 2 1) 4 2 1 (2 3 1) 4 2 1 4 2 4 2 1 1 0 4

# DIMINISHED 7th ARPEGGIOS

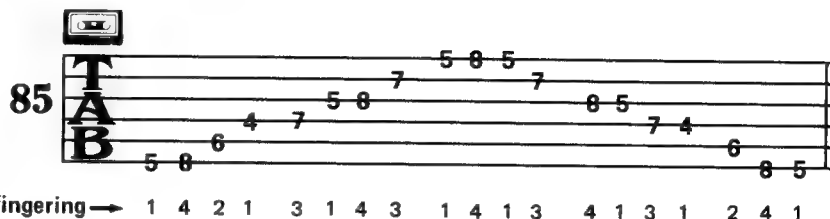
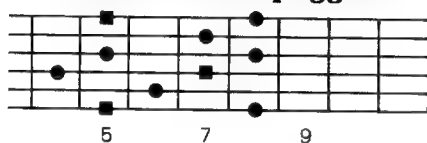
Because of the use of the diminished fifth, and the even spacing of minor thirds between each of the notes, the diminished 7th arpeggio can give a very odd, or eerie feeling.

The tones of the diminished 7th chord are 1,  $\flat 3$ ,  $\flat 5$ ,  $\flat \flat 7$ . The seventh tone is flatted twice (same pitch as 6).

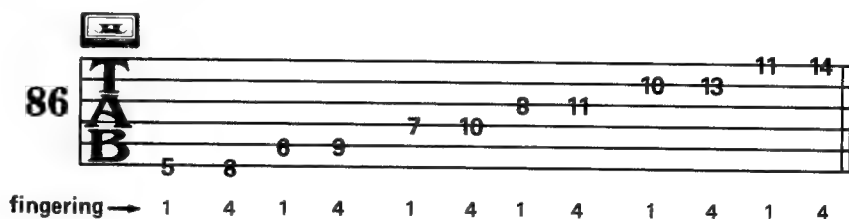
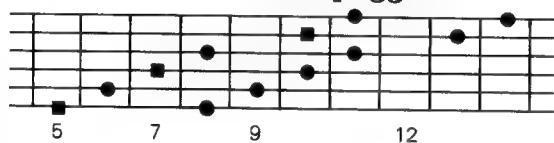


Memorize the diminished 7th arpeggios below.

## A dim. 7th arpeggio

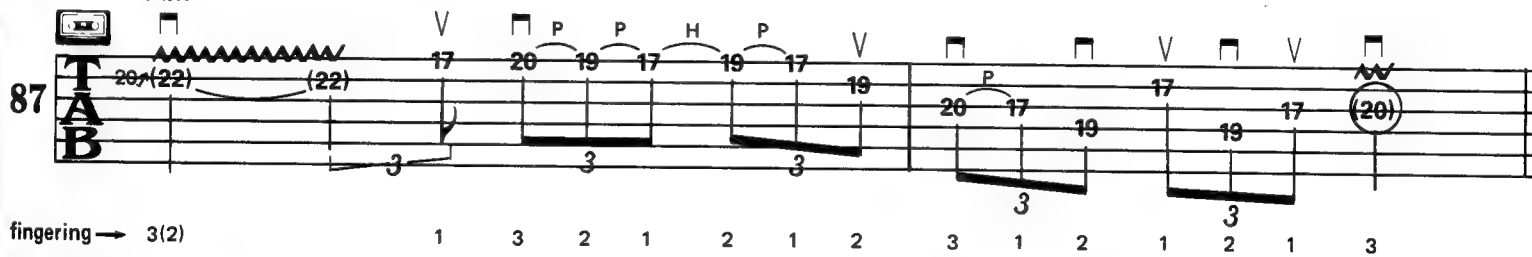


## A dim. 7th arpeggio

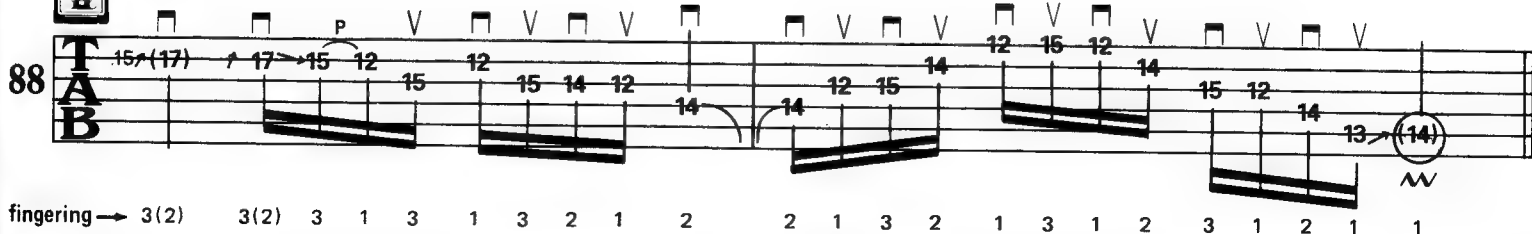


The following runs use the diminished 7th.

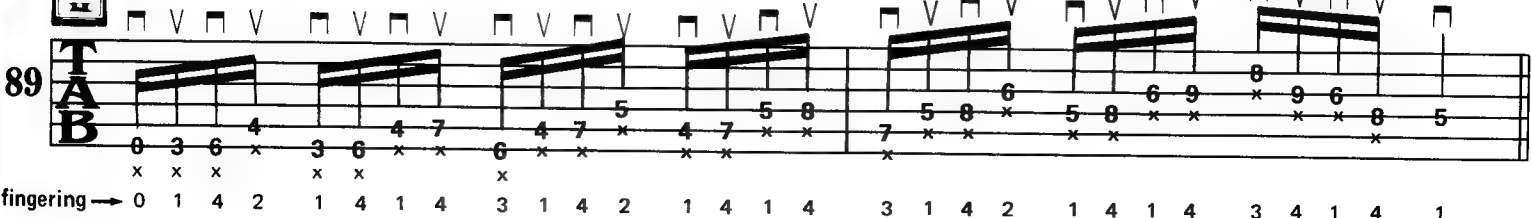
## Am



## Em



## Em



# SPEED EXERCISES FOR "LIGHTNING'S EDGE"

**Am**

1 3 4 3 1 4

**Bm**

1 1 3 1 1 3 1 1 2 1 1 3 1 1 3

**Am**

1 3 4 1 3 4 1 2 4 1 2 4 1 4 2 1 4 2 1 4 3 1 4 3

**Bm**

3 2 1 4 3 2 1 4 3 2 1 2 3 2 1 1 3 2 1

**Bm**

1 2 3 1 2 3 2 1 3 2 1 3 1 2 3 1 2 3 2 1 3 2 1 3

**Bm**

1 2 3 1 2 3 1 2 3 1 2 3

The first two measures and the second-to-the-last measure of the following solo are particularly difficult. For the first run, you can try using hammer-ons and pull-offs instead of picking each note. For the other run, you can try using sixteenth notes instead of sixteenth-note triplets. Below is a run in sixteenths that you could use to substitute for that measure.

**Bm**

2 1 3 2 1 3 2 1 1 3 2 1 3 2 1 1

## LIGHTNING'S EDGE (Solo #10)

37

# PART XI

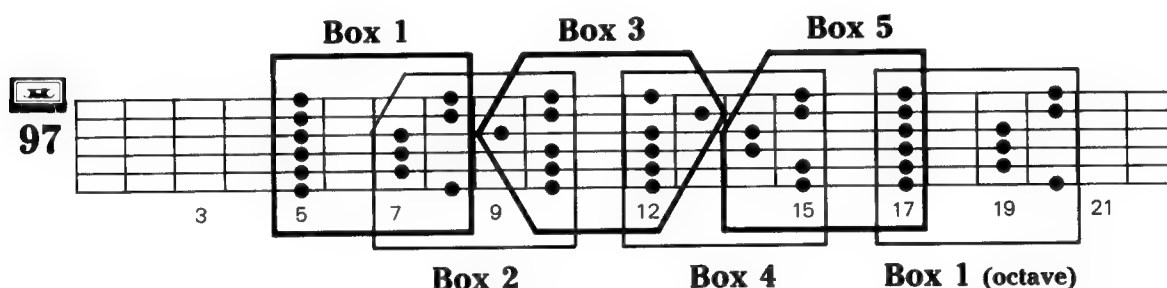
## EXTENDED SCALE PATTERNS

So far, this method has concentrated on using different types of scales basically in the same areas of the fretboard. However, once these scales are understood and you can see how they relate to each other, it is useful to learn each pattern over the entire fretboard.

The scales are shown below in several more positions. After learning these, you can experiment with other positions, and eventually you can become familiar with each scale over the entire fretboard.

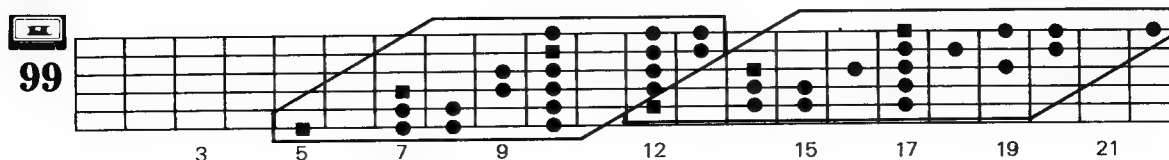
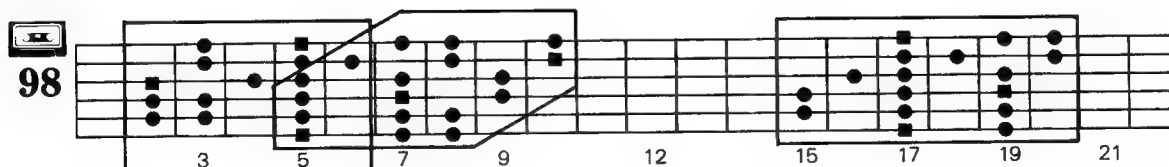
### The A Minor Pentatonic Scale — (1, $\flat 3$ , 4, 5, $\flat 7$ )

The minor pentatonic patterns are called boxes and are numbered for easier reference. Practice playing up and down the neck over each of the boxes.



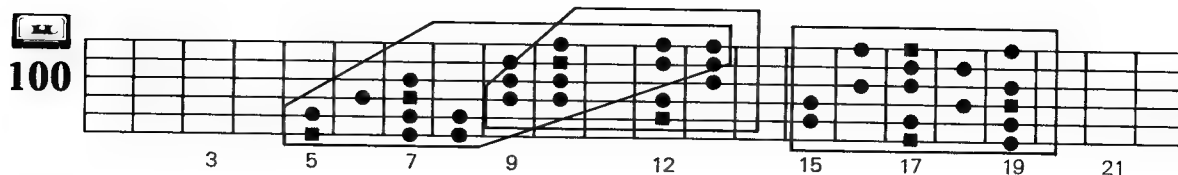
### The A Natural Minor Scale — (1, 2, $\flat 3$ , 4, 5, $\flat 6$ , $\flat 7$ )

After learning the following positions for the natural minor scale, experiment in other areas of the fretboard.



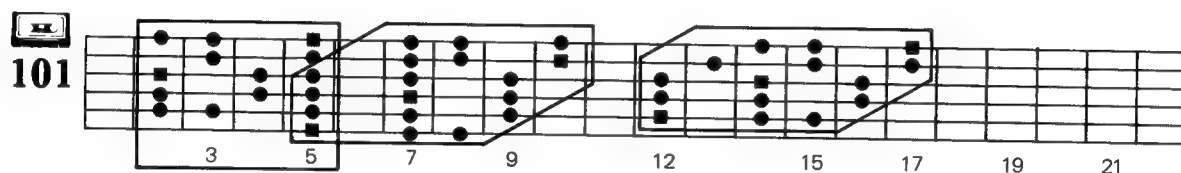
### The A Harmonic Minor Scale — (1, 2, $\flat 3$ , 4, 5, $\flat 6$ , 7)

After you learn the natural minor scale well, it won't take you long to learn the harmonic minor. In this scale the seventh tone will be just one fret below each root, instead of two frets, as in the natural minor.



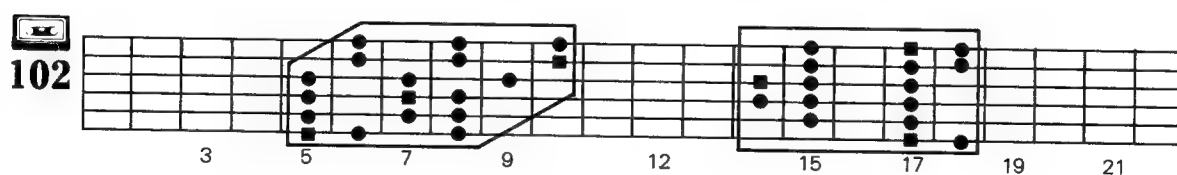
### The A Dorian mode — (1, 2, $\flat 3$ , 4, 5, 6, $\flat 7$ )

Again, simply alter the natural minor scale to make the Dorian scale. If you can visualize the chord patterns over the scale you are playing, just look for the fifth of the chord. One fret higher will be  $\flat 6$  of the natural minor. Two frets above the fifth tone will be the major 6th of the Dorian scale.



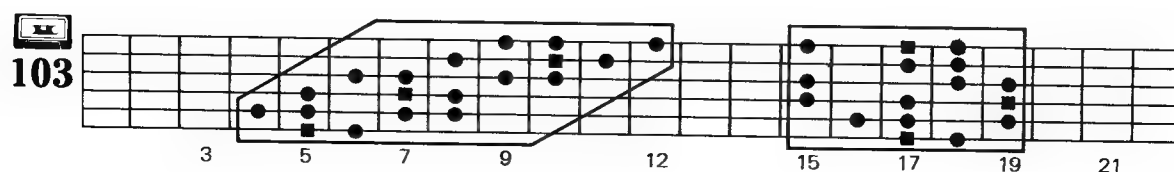
### The A Phrygian mode — (1, $\flat 2$ , $\flat 3$ , 4, 5, $\flat 6$ , $\flat 7$ )

This scale is the same as the natural minor, except it has a flatted second. Look for the roots of the scale and one fret higher will be  $\flat 2$ . None of the other notes change.



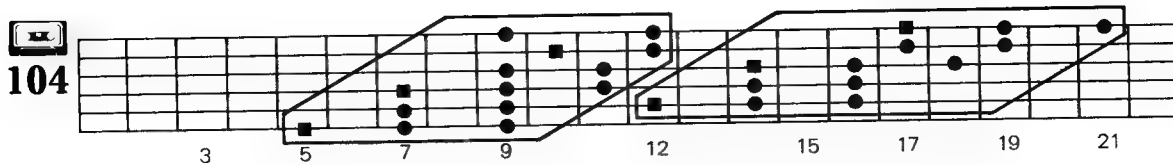
### The A Spanish-Flamenco Scale — (1, $\flat 2$ , 3, 4, 5, $\flat 6$ , $\flat 7$ )

After you learn the Phrygian minor well, just raise each third one fret. Or you can think of the Spanish-flamenco scale as the fifth mode of the harmonic minor scale.



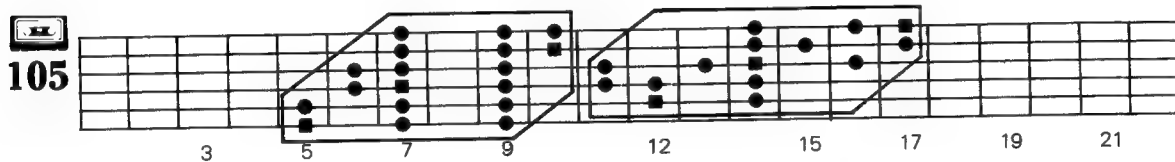
### The A Major Pentatonic Scale — (1, 2, 3, 5, 6)

This scale follows the same pattern as the minor pentatonic, except that the entire pattern is shifted down three frets. (This is because A major pentatonic uses the same notes as F# minor pentatonic, the relative minor, which is three frets lower.) Shown below are two useful diagonal forms.



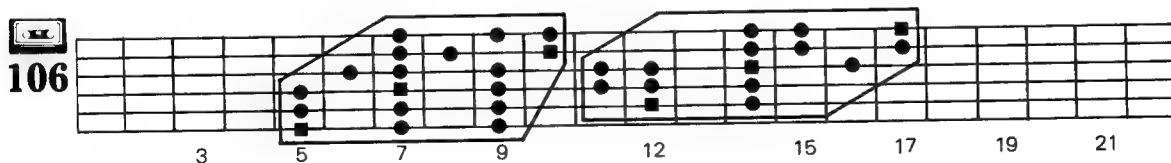
### The A Major Scale — (1, 2, 3, 4, 5, 6, 7)

The major scale follows the same pattern as the natural minor scale with the root three frets below.



### The A Mixolydian Mode — (1, 2, 3, 4, 5, 6, b7)

This scale is the same as the major scale except, find each seventh degree two frets below each root instead of one fret, as in the major scale.



Using different areas and positions, different notes may be bent and different hammer-on/pull-off configurations may be used. Remember that when you stay in one scale, solo after solo, even though you may be moving everywhere on the fretboard, you are still playing the same notes. When putting together solos, sometimes try forgetting all about the scale patterns and just listen. Follow your ear.



# RESOLUTION

Listen to the chords below and notice how the third chord pulls strongly to end on the last chord.

107

	A	D	E7	A
T		7	8	5
A	6	7	7	5
B	7	7	9	6
	5	5	7	7
			0	5

Resolving chords with dissonance and tension onto more stable and comfortable sounding chords is one of the main features of classical music. And so it is with classically influenced heavy metal. These resolutions are called **cadences** and fit into several different categories.

The most common cadence is that of resolving the V chord to the tonic. In the exercises below, first the chords are shown. Play the chords and listen for the resolution; then play the arpeggios outlining the chords and listen for the same effect. Above the arpeggios, the tones of each note relative to the chord are shown.

108

	A	E	A
T	5	9	5
A	6	9	2
B	7	9	2
	5	7	0

I V I

fingering → 1 3 1 2 1 1 1 1 0

The V chord may also resolve to a minor chord.

109

	Am	E	Am
T	5	4	5
A	5	4	5
B	7	6	7
	5	0	5

I V I

fingering → 4 1 3 2 3 1 4 1 3 3 3 1 1 4 3 1 2 1 1

This resolution can be made stronger by making the V chord a dominant 7th type. The chord formula for a dominant 7th chord is 1, 3, 5, b7.

110

	G	G7	C
T	3	6	5
A	4	4	5
B	5	3	5
	3	3	3

V V7 I

fingering → 2 1—1 1 1 2 4 1 3 2 1 2 1

A diminished chord (or dim. 7th) may pull to resolve on a chord one half-step higher.

**1** **D#dim7**

gearing → 1 4 1 4 1 4 3 1 4 1 3 4 1 4 1 3 1

Because all the notes of a diminished 7th are equally spaced (all notes are a minor 3rd apart) any of the four notes may be considered the root. Therefore, these chords may have four different names. To name a diminished chord in a progression, go down one fret below the destination chord. This will be the correct name. For example, in the example below, the first diminished arpeggio pulls to A, so it is named G# rather than B, D, or F. The other diminished arpeggios are named in the manner.

**2** **G G#dim7 A A#dim7**

gearing → 2 1 2 4 4 4 1 4 3 1 4 1 2 1 4 1 2 1 2 4 4 4 1 4 3 1 4 1 2 1 4 1

**Bm D#dim7 E E7 A(no 3rd)**

gearing → 2 1 2 4 4 4 1 4 3 1 4 1 2 1 4 1 2 2 1 0 2 4 1 0 1 0

Also, because of the equal spacing of the notes, the same diminished 7th arpeggio or chord may be played just by raising up the pattern three frets. That is, first, play a dim. 7th arpeggio, then move up three frets and play the same pattern. This will still be the same arpeggio. You can keep raising (or lowering) three frets without changing the chord.

### E diminished 7th

12 15 17 19 21

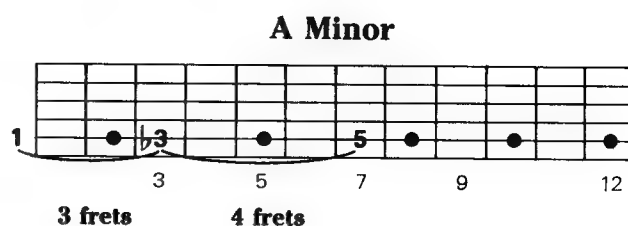
The diminished 7th arpeggio run below, moving up the neck and then resolving to the final note, sounds like the style of Yngwie Malmsteen.

**13**

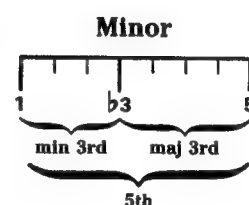
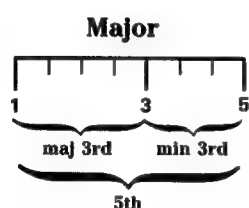
gearing → 2 1 3 1 3 1 3 1 2 1 3 1 3 1 3 1 2 1 3 1 3 1 3 1 3

# RIGHT HAND FRETTING-ARPEGGIOS

One common use of right-hand fretting is for playing arpeggios. Below, the major and minor scales are shown on one string with the notes of the arpeggios shown in heavy print. Notice the fret distances between the notes in the arpeggio.



Four frets is a major third, and three frets is a minor third. Arpeggios (or chords) may be viewed as stacked up intervals. Below are the intervals for any major or minor arpeggios.



The arpeggios below follow with the chords. Notice the patterns used for the minor and major arpeggios.

114

**A** **E $\flat$**  **A** **E $\flat$**

12 5 9 11 4 8 9 2 6 8 1 5

3 3 3 3

115

**Em** **D** **C** **B**

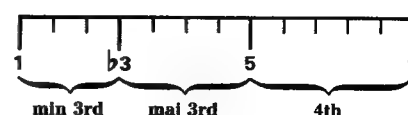
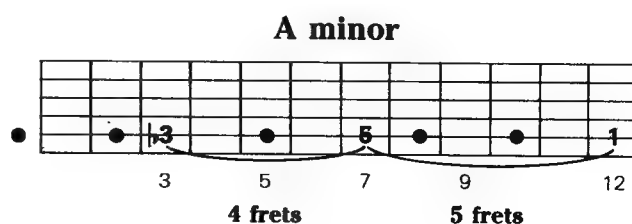
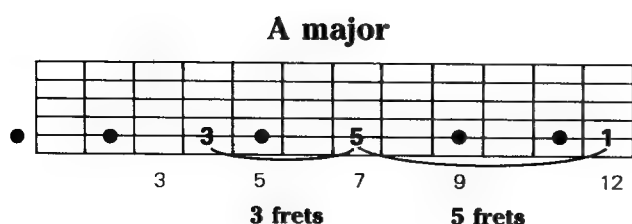
10 12 15 17 10 14 15 8 12 14 7 11

3 3 3 3

fingerings → RH 1 4 RH 1 4 RH 1 4 RH 1 4

RH 1 3 RH 1 3 RH 1 3 RH 1 3

When the lowest tone of a chord (or arpeggio) is the root, as in the previous exercises, the chord is said to be in **root position**. However, when the root is raised up an octave and the third is left as the lowest note, the chord is now in **first inversion**. The interval between the 5th and the root (on top) is always five frets, which is a perfect 4th.



The exercises below use arpeggios in both root position and first inversion. After you learn the patterns, try visualizing the chord forms over which you are playing, and see how the arpeggios fit into them.

16

Em (root pos.) C (1st inv.) G (root pos.) D (1st inv.)

Em (root pos.) C (root pos.) G (root pos.) D (1st inv.)

fingering → RH 1 3 RH 1 3 RH 1 3 RH 1 3

If the third is also raised an octave, and the fifth is left as the lowest tone, the chord (or arpeggio) is in **second inversion**. (If you raise the fifth an octave also, you will be back to root position again, one octave higher.)

A major A minor

5 frets 4 frets 5 frets 3 frets

Both first and second inversions are used below.

17

Am (1st inv.) E (2nd inv.) Am (2nd inv.) E (root pos.)

fingering → RH 4 RH 4 1 4 RH 4 RH 4 1 4 RH 4 RH 4 1 4 RH 4 RH 4 1 4

Diminished 7th chords and arpeggios use equal intervals of minor thirds.

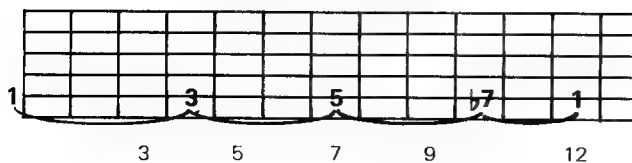
18

G G<sup>#</sup>dim Am A<sup>#</sup>dim Bm D<sup>#</sup>dim Em B E

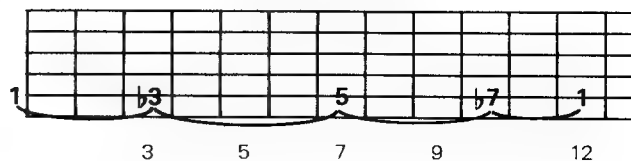
fingering → RH 4 1 4 RH 4 1 4 RH 4 1 4 RH 4 1 4 RH 4 1 4 RH 4 1 4 RH 4 1 4 RH 4 1 4 RH

Dominant 7th chords (1, 3, 5,  $\flat 7$ ) and minor seventh chords (1,  $\flat 3$ , 5,  $\flat 7$ ) are the same as the major and minor except that the minor seventh is thrown in. Notice that 3, 5,  $\flat 7$  (of Dominant 7th) makes a diminished arpeggio.

### A dominant 7th



### A minor 7th



The progression below uses some seventh chords. Listen for the resolutions.

119

**G** **C** **C7** **F**

H P H H P H H P H

15 7 10 15 8 12 18 8 12 17 8 13

3 3 3 3

RH 3 1 3 RH 3 1 3 RH 3 1 3 RH 4 1 4

**Dm** **Dm7** **E $\flat$**  **A** **D**

H P H H P H H P H P

17 10 13 20 10 13 18 11 15 17 9 12 10

3 3 3 3

RH 3 1 3 RH 3 1 3 RH 3 1 3 RH 3 1 3 1

Now try experimenting with these progressions using different inversions of the same chords.

## SPEED EXERCISES FOR "BATTLE TO VICTORY"

120

**Em**

V V V V V V V V V V

19 20 17 20 15 20 14 20 20 14 20 15 20 17 20

3 4 2 4 1 4 1 4 2 4 1 4 1 4 2 4

121

**Em**

V V V V V V V V V V

19 20 17 20 15 20 14 20 15 20 17 20

3 4 2 4 1 4 1 4 1 4 2 4

122

**Em**

P P V V V V

19 17 15 19 15 19 17 19 19 (20)

3 2 1 3 1 3 2 3 3(2)

123

**C** **C $\sharp$ dim** **D** **D $\sharp$ dim**

V V V V V V V V

5 5 5 8 6 5 8 6 9

3 3 3

1 1 1 4 2 1 4 1 4

repeat up 2 frets

“Battle to Victory” begins in an E minor and diminished tonality. The solo starts first in Em, but later changes to major as it builds up through the classical-sounding progression to the climax. Listen for the resolutions.

## BATTLE TO VICTORY (Solo #11)

Em 8 E C

**TAB**

15 (17) (17) 12 15 12 12 14 12 12 15 14 12 14 12 14 13 (15) 9 10 9 10 9

3(2) 1 3 1 1 2 1 1 3 2 1 3 1 3 2 1 2 1 2 1

E C C#dim

**TAB**

19 20 17 20 15 20 14 20 15 20 17 20 19 17 15 19 15 19 17 19 (20) 5 5 5 8 6 5 8 6 9

3 4 2 4 1 4 1 4 1 4 2 4 3 2 1 3 1 3 2 1 3(2) 1 1 1 4 2 1 4 1 4

D D#dim E A F#

**TAB**

7 7 7 10 8 7 10 8 11 12 7 4 7 12 9 5 9 14 9 6 9

1 1 1 4 2 1 4 1 4 RH 4 1 4 RH 4 1 4 RH 4 1 4

B E C#m

**TAB**

14 11 7 11 16 12 7 12 16 12 9 12

RH 4 1 4 RH 4 1 4 RH 3 1 3

E F# B

**TAB**

16 12 0 12 18 14 9 14 19 14 11 14 19 14 11 14 19

RH 3 0 3 RH 4 1 4 RH 4 1 4 RH 4 1 4 RH

# PART XII

## INTRODUCTION TO "BABYLON"

"Babylon" begins with some fast arpeggios in triplets. Hold all the notes of each chord with the left hand throughout each group of three. Your left hand should only move with each chord change. These arpeggios are very difficult to pick fast because of the string changes, so begin slowly at first and work up your speed.

124

Chords: F#, A, C, G, D, A, E, B

fingering → 1 3 4 0 1 1 1 3 4 1 4 3 1 3 4 1 4 3 4 3 1 4 3 1

When the rest of the band joins in, the lead part is simplified. Here the rhythm and lead guitars play the same thing.

125

Chords: F#m, A, C, G, D, A, E, B

fingering → 1 1 1 4 4 4 2 2 2 1 1 1 2 2 2 1 1 1 4 3 1 4 3 1

Below is the complete introduction.

126

Chords: F#m, A, C, G, D, A, E, B

fingering → 1 3 3 0 1 1 1 3 4 1 4 3 1 3 4 1 4 3 4 3 1 4 3 1 1 1 1 4 4 4 2 2 2 1 1 1 2 2 2 1 1 1 4 3 1 4 3 1

# FIRST VERSE

After four more measures, the verse begins as Lead guitar #1 begins the melody. The major seventh (from the harmonic minor scale), sliding up to the root gives this melody sort of a "mystical" or "Arabian" sound. Also, notice the staggered feeling that the lazy triplets give.

Hold the vibrato bar with your right-hand fingers and, as you pick certain notes, press very slightly and release. These slight dips make the melody sound as though it is sliding around and makes some of the notes sound slightly "sour." The rhythm, scale, and bending technique all reinforce the mood. Practice these slight bends below.

7

ngering → 2 3 1 — 1 3(2) 4 1 0 1 2 — 2 — 2

The second line of the verse is nearly the same as the first except that it moves down at the end so that it makes a sort of "musical rhyme" to the first line. Below is the complete first verse.

8

ngering → 2 3 1 — 1 3(2) 4 1 0 1 2 — 2 — 2

2 3 1 — 1 3(2) 4 1 0 1 2 0 1

Also, the first line sounds unfinished or undecided while the second line sounds more final; as though the first line poses a question to be answered by the second line. This question/answer format is used in many forms of music.



# FIRST CHORUS

In the chorus, the melody follows the roots of the chords until the end of the phrase. The interval of a diminished fifth between the third and fourth note (as the melody note moves from G to C $\sharp$ ; the fifth of an F $\sharp$  chord) gives the melody an eerie feeling. Again, notice the question/ answer format.

129

F $\sharp$ m

E B G F $\sharp$  E B G F $\sharp$

fingering → 1 1 2 3 1 1 2 1

Lead guitar #2 comes in on the last measure of the chorus with an arpeggio that uses the Spanish-flamenco scale. The major third gives a brighter feeling that sounds odd since both the verse and chorus is minor and dark-sounding. Notice the picking and hammer-on/pull-offs used. Slide down to the low F $\sharp$  at the end.

guitar 2

F $\sharp$

130

fingering → 3 2 1 3 1-1 3 1 1 2 3 1 2-2

# SECOND VERSE

The second half of the second verse uses two-part writing. Lead #1 plays the same part as in the first verse. But lead #2 comes in with a higher countermelody, which descends (chromatically at the end) to the tonic. Play each part separately first; then play both parts together to look at the intervals used.

131

guitar 2

guitar 1

# SECOND CHORUS

The second chorus is twice as long as the first. When a section of music has four phrases, as below, usually the first and third will be the same while the second and fourth will use slight variations and make a "musical rhyme." This kind of structure is often used in both guitar riffs and vocal melodies. Listen for it in songs that you hear.

The last note of Lead #1 extends over the acoustic section after the chorus for eight measures. This controlled feedback is achieved by keeping a steady finger vibrato and having your amp turned up loud. When the amp is loud enough, it makes the string vibrate more, which in turn keeps the amp producing the note. Different harmonics are produced depending mostly on the tone of the guitar and amp, the volume played at, and the position and distance of the guitar to the amp. It is just a matter of trial and error to get good controlled feedback.

32

32

(controlled feedback)

On top of the previous part, Lead #2 plays short one measure lead bursts based in the Spanish-flamenco scale. The end of the last riff uses right hand tapping and sliding. Notice here that the tones b2, 3, 5, b7, of the Spanish-flamenco scale makes a diminished 7th arpeggio pattern.

133

4 3 1 4 1 4 2 1 4 1 4 3 1 1 1 4 2

134

1 3 2 1 4 1 4 3 1 4 1 2 1 3 2 1 3(2) 3(2)

135

4 3 1 4 1 4 2 1 4 1 2 3 RH 3 2 1 RH 3 2 1 RH 3

## BRIDGE TO THIRD VERSE

Here, Lead #1 plays the same thing as the rhythm guitar. Below, play through the first ending, then repeat to the beginning. The second time through, skip the first ending and go directly to the second. The first measure in the second ending is lacking one beat — see Rhythm Guitar 2, page 42.

136

fingering → 3 3 3 3 3 3 1 0 0 3 3 3 3 3 3 3 3 3 3 3 3 1 0 0

1. 3 1 3 1 3 1 3 2 1 1

2. 3 1 3 1 3 1 3 1 2 3

## THIRD VERSE

Practice the slight bends below. Slide to the first note and push up with your third finger. The third string will also be bent. Put your second finger on the third string and pick it (pre-bend), and at the same time, let up pressure on the second string. Then release.

137

fingering → 3(2) 2 1

Below is the melody line for Lead guitar #1. Lead guitar #2 plays the same thing exactly twelve frets (one octave) higher. The melody uses the F# minor pentatonic scale except at the asterisk (\*) where it moves to use an E major arpeggio over the E chord in the rhythm track.

138

fingering → 3 3 1 1 3 1 1 3 1 1 3 1-1 2 3(2) 2 1 1 2 1

3 3 1 1 3 1 1 3 1 1 3 1 1 3

Practice each measure of the following lead as a speed exercise before playing them all together. Try to visualize the chord form closest to where you are playing on the neck for each measure of the lead.

## FINALE

$$\mathbf{F\sharp_m - C\sharp - A - B} \quad | \quad \mathbf{D\ G - B\ Cdim - C\sharp - E\sharp_{dim}}$$

141

Phrase 1 F#m C# A

TAB

17 (19) 14 17 14 16 (19) 16 14 16 15 16 15 16 13 15 16 13 16 (18) 14 14 16 18 17 17 15 17 15 4 4 7 7

fingering → 3(2) 1 3 1 2 1 3 1 3 2 3 2 3 1 2 3 1 2 1 1 2 3 3 1 3 1 1 3 3

B D G B Cdim

TAB

6 6 4 6 4 10 14 12 12 16 14 13 7 10 9 9 12 11 10 12

2 1 3 1 1 3 1 1 3 1 1 1 2 1 1 3 2 1 3

C# E# F#

TAB

11 9 11 12 10 11 12 10 13 12 10 11 13 14 12 15 13 15 12 13 12 13 15 12 15 12 14 11 14 11 11 13 14

2 1 2 3 1 2 3 1 4 3 1 2 4 4 1 4 2 4 1 2 1 2 4 1 4 1 4 1 4 1 3 1 4

Measure one uses the minor pentatonic scale. In measure two, the lead stresses C#'s major third, which makes the scale pattern F# harmonic minor. In measures three and four, the lead basically comes down the scale, beginning on the fifth of A and ending on the root of B. Measures five and six follow arpeggios of the chords. Measure seven, uses the C# Spanish-flamenco scale (F# harmonic minor), and in measure eight the lead moves into the E# diminished 7th arpeggio. The beginning of the second eight bars is shown next because the E# diminished arpeggio resolves to it.

## Phrase 2

42

F#m C# A B

D G# B Cdim E#dim

fingering → 4 1 1 1 2 1 3 1 3 1 2 3 2 1 2 1 3 3(2) 1

3 1 2 1 2 4 4 4 4 1 1 1 4 1 4 1 2 1 2 4 4 4 4—4

2 1 3 1 2 1 3 1 3(2) 3(2) 3(2) 3 1 3(2) 2

5(7) PB (7)

Measure one, above, borrows the flat second (G) of the Phrygian minor scale. In the second measure, each group of two notes is part of the C# major chord (root position, and first inversion). The fifth measure emphasizes the D arpeggio. Over G# the lead uses the root and fifth. The fifth measure is sort of an echo of the fourth, as it was in the first phrase. Over C#, measure seven uses an E# diminished arpeggio. (The notes of E# diminished are the same as C#7 except for one note.) Listen to the bends in the last measure to get the staggered feeling of the rhythm.

## Phrase 3

43

F#m C#

A B D G# B Cdim C# E#dim

fingering → 1—1 2 4 1 2 4 1—1 2 4 1 2 4 1—1 2 3 1 2 3 2 2

4 1 2 1 3 1 4 1 2 1 3 1 4 1 2 1 3 1 4 2

1 1 2 3 3 1 2 1 2—2 3 2 3 1 2 1 2 1 2—2 1 2 3(2) 3(2)

Measure one begins with a run up an extended form of the F# harmonic minor scale. In measures three and four, a rhythmic pattern is used. Measures seven and eight climb up the C# arpeggio then up the contoured scale.

**Phrase 4**

144

**F#m** **C#**

**TAB**

fingering → 1 2 3 2 1—1 2 1 4 2 4 2 1 4 2 1 4 2 1 2 2 2 4 2 2 2 1

**A** **B**

**D** **G#** **B** **Cdim**

**C#(7)** **E#dim7** **G#dim** **A**

The pick-up notes for this section actually fall in the last measure of phrase #3, but they are included in this section so you can see them as part of the first run.

In measure one, an extended F# natural minor scale pattern is used. The run continues into measure two, using the C# arpeggio. The third measure uses the major scale over A, and the fourth uses B7 arpeggio. In measures five and six, parts of the arpeggios of each chord are used keeping F# as a common tone. Measure seven runs right up the arpeggio (C#7), and measures eight and nine run up the E# diminished 7th arpeggio. Here the tempo slows (ritard) and, instead of ending on the tonic (as usual), substitute the relative major, A, for a brighter, sort of surprise ending.

### "Babylon" by Troy Stetina



# CREATIVE SOLOING

Ideas for melodies and runs can come naturally, just by listening to a recording of the rhythm chords. When writing the solos in this method as well as the solo to "Babylon," I let my ear do the work; imagining what would sound good, then finding it on the guitar. Then I picked some of the better ideas and put them together. The explanations to the solo at the end of "Babylon" may seem complicated, but don't worry about it. The value of theory is not in following rules that govern what you must play, but rather in developing your ear and offering you more possibilities. Use your ear to tap your creativity.

Use the techniques learned in this method and any others that you learn or make up to achieve variety and creativity in your music. Basically, variety is achieved by establishing continuity (some kind of followable, continuous pattern) and adding in contrast. Too much of the same thing will eventually get boring. On the other hand, you need some continuity or it may be unfollowable.

Continuity can be established by using contours, musical rhymes, recurring themes, rhythmic patterns, and other techniques. Contrast can be achieved by changing scales, using odd or out-of-key notes, changing from high to low notes (or reverse), moving up after coming down (or reverse), playing slow after a fast passage or fast in a slow part, holding out notes for a breathing space, bending, muting, staccato, vibrato, etc. Balancing continuity and contrast will make the music followable and interesting.

## THEORY, COMPLEXITY AND EXPRESSION

Theory is a vehicle to expand your understanding of music and guitar and help to develop your ear. Don't get caught up in the rules and academic aspect and forget about feeling and expression. Instead, use theory to enhance your creativity. Remember that theory exists for music, and not the other way around.

Also, it doesn't have to be hard or difficult to be good. In fact, often just the opposite is true. Simpler is easier to follow and comprehend. Then, when you do something fast or difficult it gets more attention. Keeping things simpler can also leave more room for expression and intensity of feeling. The solo to Babylon, however, isn't particularly simple; there is a lot going on, and going by very fast. This is primarily because the chord progression under the lead is rather involved. It also became more complex because I chose to basically follow each chord. Most songs, however, use simpler and shorter chord progressions.

Try recording yourself and listen not only to the notes you play, but the expression and feeling with which you play. It's not just what you play, but how you play it as well. After you understand theory basics and get the mechanics of playing, follow your ear and play what you feel. Remember, if it sounds good, it is good.